TECHNIQUE FOR ESTIMATING MAGNITUDE AND FREQUENCY OF FLOODS IN VIRGINIA

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WATER RESOURCES INVESTIGATIONS 78-5

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Information is presented for estimating the magnitude and frequency of floods on natural streams in Virginia. Flood-frequency characteristics are defined for 299 gaging stations in Virginia having 10 or more years of record not significantly affected by man-made changes. The frequency characteristics were related to basin characteristics by multiple regression techniques and the equations derived can be used to estimate the magnitude of future floods with recurrence intervals as much as 100 years on ungaged streams if drainage area and slope for the site is known. At or near gaged sites, a weighted average of the regression results and the gaging station data is recommended.

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COVER PHOTOGRAPH -- James River at Cartersville, flood of June 22, 1972. Photograph furnished by Virginia Department of Highways and Transportation.

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FACTORS FOR CONVERTING ENGLISH UNITS TO

INTERNATIONAL SYSTEM (SI) UNITS

The following factors may be used to convert the English units published herein to the International System of Units (SI).

Multiply English units	By	To obtain SI units
	Length	
Feet (ft)	0.3048	Meters (m)
Square miles (mi^2)	2.590	Square kilometers (km^2)
Miles (mi)	1.609	Kilometers (km)
Feet per mile (ft/mi)	0.1893	Meters per kilometer (m/k)
	Flow	
Cubic feet per second (ft^3/s)	0.02832	Cubic meters per second (m^3/s)

TECHNIQUE FOR ESTIMATING MAGNITUDE AND FREQUENCY OF FLOODS IN VIRGINIA

By Earley M. Miller

ABSTRACT

A technique is presented for estimating the magnitude and frequency of floods in Virginia. For 299 gaged sites, the magnitudes of floods having recurrence intervals of 2 to 100 years are provided in tables. For ungaged sites, regression relations are presented that allow the estimation of flood magnitudes based on upstream drainage area, average main-channel slope, and a factor to account for regional variations in basin terrain characteristics that would bias the results. A summary of maximum known peak discharges are presented for 363 sites together with the relationship of drainage-area size to flow in cubic feet per second per square mile. Also given is table of 10 basin characteristics for 403 gaging stations.

INTRODUCTION

The purpose of this report is to provide techniques for estimating the magnitude and frequency of floods at natural stream sites in Virginia.

Previous reports, Speer and Gamble (1964), Tice (1968), and Miller (1969) have presented methods for estimating flood magnitudes for various recurrence intervals. Each method has been developed on the basis of a limited period of record or sample size and can be used with confidence only for drainage areas greater than 10 square miles.

For better definition of flood frequency on small drainage areas, data were collected, during the period 1965-76, at 90 stream sites with drainage areas less than 10 square miles. A rainfall-runoff model developed by the U.S. Geological Survey (Dawdy, Lichty, and Bergmann 1972) was used to define flood frequency for 51 of the small stream basins. R. W. Lichty and F. Liscum (1978) used values of a hydrograph shape factor for a rainfall-runoff model and an infiltration factor as variables in a synthetic T-year (annual) flood relation to compute flood estimates for 51 small stream sites. Improved estimates for the magnitude of the T-year flood were then obtained by computing a weighted average of the synthetic estimate and an observed estimate, with the weights proportional to the relative accuracies of the two estimates. Flood-frequency curves at 248 additional sites were defined by fitting the Pearson Type III distribution to the logarithms of the data as rec-

ommended by the Water Resources Council (1976), Bulletin 17.

Resulting flood magnitudes with recurrence intervals of 2, 5, 10, 25, 50, and 100 years for the 299 sites were related to basin characteristics in a regression analysis. Relations presented were defined from the expanded data base by detailed analytical techniques and should provide flood estimates of increased reliability.

Peak discharges at gaging stations used in the analysis are published in a separate report (Miller 1977).

This report was prepared by the U.S. Geological Survey in cooperation with the Virginia Department of Highways and Transportation. Information for small streams and rainfall-runoff model results used in this report were funded by the Federal Highway Administration through the Virginia Highway research program. However, the contents of this report do not necessarily reflect the official views or policies of the Federal Highway Administration. Most of the data were collected in cooperation with city, county, and state organizations and other federal agencies. Data on ten small watersheds were obtained from the Agricultural Research Services, U.S. Department of Agriculture, Blacksburg, Virginia. Long-term daily precipitation records and storm precipitation reductions to 5-minute increments were obtained from U.S. National Oceanic and Atmospheric Administration.

J. F. Bailey, R. W. Lichty, and W. O. Thomas, Jr., hydrologists of the U.S. Geological Survey, provided technical advice and assistance during the preparation of the report.

ESTIMATING TECHNIQUE

For most ungaged natural sites (excluding the main stem of the James River), flood magnitudes having recurrence intervals of 2, 5, 10, 25, 50, and 100 years are computed by using appropriate values of the drainage area, slope, and a regional factor in the equations shown in table 1. This factor is needed to account for regional variations in basin terrain characteristics that would bias the results.

Table 1.--Summary of regression equations

[A, drainage area; S, slope; RF, regional factor]

Recurrence interval (years)	Magnitude of flood (ft^3/s)	Standard error of estimate in percent (+)	(-)	Equivalent years of record
2------	$25.2\ A^{0.83}\ S^{0.26}\ RF$	57.1	37.6	2
5------	$52.2\ A^{0.80}\ S^{0.25}\ RF$	53.2	35.7	4
10------	$81.3\ A^{0.78}\ S^{0.24}\ RF$	55.1	35.6	6
25------	$136\ A^{0.76}\ S^{0.23}\ RF$	60.6	39.0	7
50------	$198\ A^{0.74}\ S^{0.22}\ RF$	68.4	42.0	8
100------	$269\ A^{0.73}\ S^{0.21}\ RF$	76.0	44.7	9

The accuracy of the regression equations can be expressed in two ways, percentage or equivalent years of record. The accuracy in percentage referred to as the standard error of estimate, is the accuracy to be expected, on the average, two-thirds of the time. Hardison (1969) related the standard error of estimate and streamflow variability to equivalent years of record. When converted to equivalent years of record,

the standard error of estimate is expressed as the number of actual years of streamflow records needed at the ungaged site to provide an estimate equal in accuracy to the standard error of estimate. The accuracy of the regression equations is summarized in table 1.

Step-by-step procedures for determining the magnitude of floods having selected recurrence intervals at ungaged sites are:

(1) Determine the size of the contributing drainage area from the most reliable map or maps available.

(2) Compute 10 percent and 85 percent of the river mile distance from the site to the basin divide and locate these two points on the maps. Obtain the elevation of the streambed of these two points and compute the slope in feet per mile.

(3) Identify from plate 2 the flood-frequency region and the regional factor.

(4) Select applicable equation and compute flood magnitude.

The above procedure has been applied to site on North Fork Shenandoah River. The drainage area is 215 square miles, the channel slope is 44.3 feet per mile, and the regional factor is 1.00. By substitution in the equations, the following results are obtained:

Q_2 = 5,830 ft^3/s	Q_{25} = 19,200 ft^3/s
Q_5 = 9,890 ft^3/s	Q_{50} = 24,200 ft^3/s
Q_{10} = 13,300 ft^3/s	Q_{100} = 30,100 ft^3/s

Flood frequency at gaged sites can be determined by a combined use of the regression equations and the gaging station frequency curve. The recommended procedure (Water Resources Council, 1976 Appendix 8) is to compute the discharge for the desired recurrence interval as a weighted average of the station value and the regression value. The weighted average is based on length of record of the station data and equivalent years of record for the regression value as determined from table 1. The equation,

$$Q_w = \frac{Q_g N_g + Q_r N_u}{N_g + N_u}$$

is used to compute the weighted average, where

Q_w = the weighted station discharge,
Q_g = the station discharge from the gaging station frequency curve,
Q_r = the regression discharge,
N_g = the number of years of gage record used to compute Q_g, and
N_u = the equivalent years of record for Q_r from table 1.

The following example illustrates how a weighted estimate is calculated. The example is for the station 0130 Dunlap Creek near Covington.

Recurrence interval, T (years)	Q_g (ft^3/s)	N_g (years	Q_r (ft^3/s)	N_u (years)	Q_w (ft^3/s)
2	4,720	47	3,550	2	4,670
5	7,450	47	6,070	4	7,340
10	9,530	47	8,230	6	9,380
25	12,500	47	12,000	7	12,400
50	14,900	47	15,200	8	14,900
100	17,400	47	18,900	9	17,600

Frequency curves for Roanoke and Nottoway River sites with drainage areas that cross regional boundaries are weighted on basis of the percent drainage area in each region.

Assume the 100-year frequency is needed for a site on Nottoway River with drainage area 1,000 square miles and slope 4.10 feet per mile. The drainage area of the Nottoway River in area E is 515 square miles. By subtraction the drainage area in area A is 485 square miles.

$$Q_{100} = 269\ A^{0.73}\ S^{0.21}\ RF$$

Q_{100} (area A) = 269 x 155 x 1.34 x 0.65 = 36,300

Q_{100} (area E) = 269 x 155 x 1.34 x 1.00 = 55,900

area A = 485 ÷ 1,000 = 48.5 percent

area E = 515 ÷ 1,000 = 51.5 percent

Q_{100} (site) = 0.485 (36,300) + 0.515 (55,900)

= 17,600 + 28,800

= 46,600 ft^3/s

The family of curves (fig. 1) can be used to estimate flood frequency for sites on the main stem of the James River. For example assume data is needed for James River at Bremo Bluff at mile 175 above mouth. From figure 1 the following discharges are obtained:

Q_2 = 62,000 ft^3/s

Q_5 = 94,000 ft^3/s

Q_{10} = 122,000 ft^3/s

Q_{25} = 159,000 ft^3/s

Q_{50} = 190,000 ft^3/s

Q_{100} = 228,000 ft^3/s

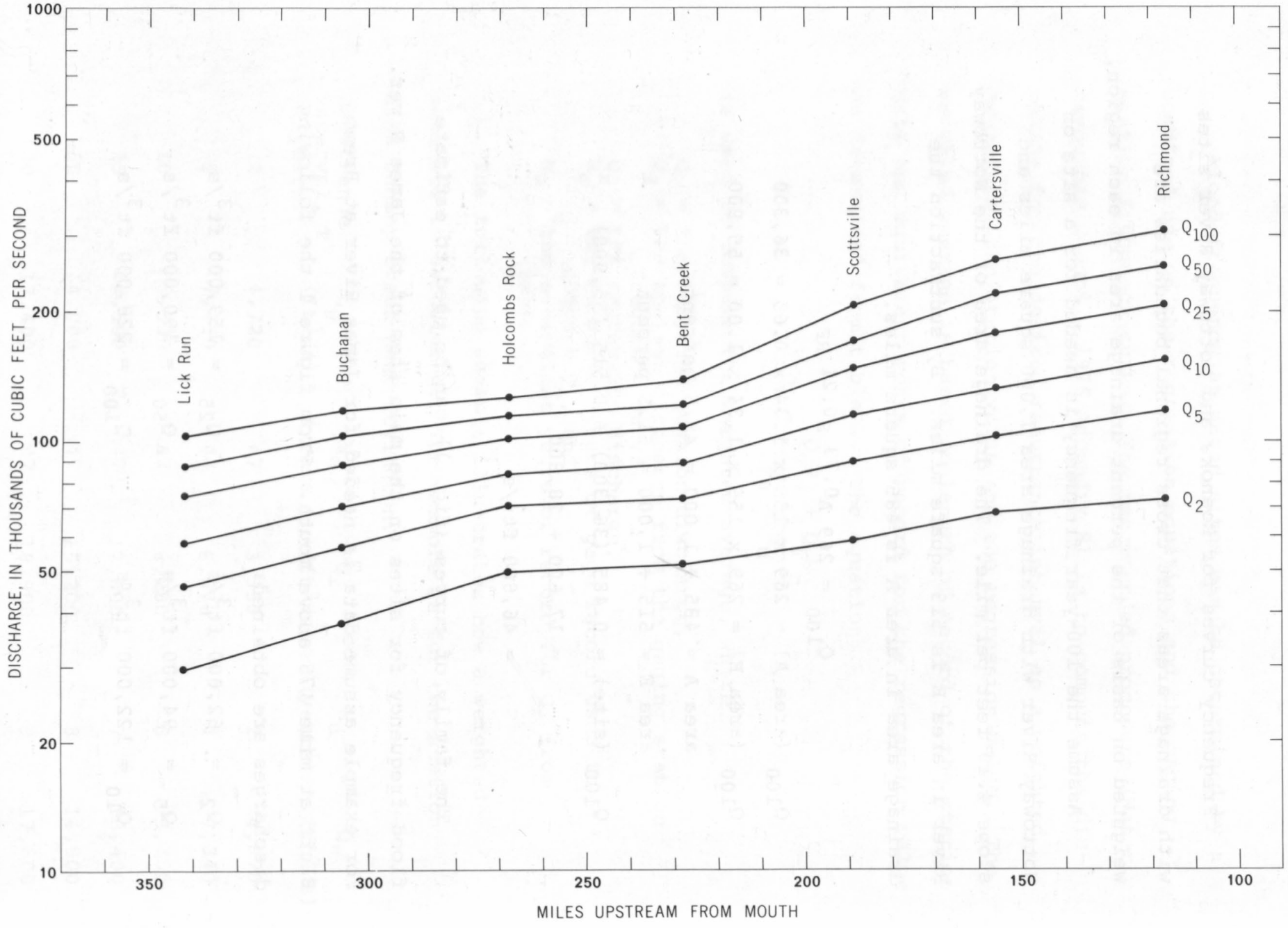

Figure 1. Graph showing flood frequency for James River.

LIMITATIONS

Regression equations were defined from data at gaging stations on natural flow streams having drainage area between 0.1 and 8,000 square miles and slope between 1.6 and 1,320 feet per mile. The applicability of regression equations to sites with drainage area or slope outside these ranges is unknown.

Equations given in this report do not apply to areas near the mouth of streams draining into larger rivers where backwater effect is experienced. The equations also are not applicable to sites where the watershed contains a significant amount of regulation from impoundments, such as farm ponds and flood-detention structures, or significant channelization; or to urban watersheds.

Flood-control reservoirs decrease flood magnitude, and urbanization tends to increase flood discharges, especially for low-order floods. Treatment of the effect of these changes is outside the scope of this report. Studies in Virginia (Anderson, 1970) indicate that flood peaks from rural basins may be increased by as much as two- to seven-fold by urbanization.

ANALYSIS

Annual Peak Data

Annual peak discharges for periods ranging from 10 to 78 years in length from 299 gaging stations in Virginia, not materially affected by regulation or diversion, were used in this analysis, together with available historical information. At 51 of the gaging stations rainfall-runoff model parameters were used to compute synthetic T-year floods which were weighted with the T-year floods based on observed data. Locations of gaging stations are shown in plate 1.

Basin Characteristics

Many basin characteristics were tried in the regression analyses with T-year peaks but only two of them were used in the final relation. Those tested for significance were:

1. Drainage area (A), in square miles, as determined from latest Geological Survey topographic maps.

2. Main-channel slope (S), in feet per mile, determined from elevations at points 10 percent and 85 percent of the distance along the channel from the gaging station to the divide.

3. Main-channel length (L), in miles, from the gaging station to the basin divide, measured along the channel which drains the largest basin, using the latest topographic maps (1:24,000).

4. Storage (S_t), area of lakes, ponds, and swamps in percent of drainage area, plus one percent, measured from 1:250,000 Army Map Service maps by use of the grid method.

5. Mean basin elevation (E), in feet above mean sea level, measured from Army Map Service maps by the grid method.

6. Forested area (F), in percent of drainage area, plus one percent, measured from maps by the grid method.

7. Mean annual precipitation (P), in inches, determined from the U.S. Weather Bureau series "Climatic Summary of the United States" (Virginia).

8. Precipitation intensity ($I_{24,2}$), expected in 24 hours once each 2 years, in inches, determined from U.S. Weather Bureau Technical Paper 29.

9. Mean minimum January temperature (t_1) in degrees F, determined from "Climatic Summary of the United States" (Virginia).

10. Snowfall (S_n), in inches, is the mean annual snowfall determined from "Climatic Summary of the United States" (Virginia).

Values of the above basin characteristics determined for each of 403 sites are listed in table 3.

Flood-frequency Relations

The relation of flood-peak magnitude to probability of occurrence, or recurrence interval is generally referred to as a flood-frequency relation. Probability of occurrence is the percent chance of a given flood magnitude being exceeded in any one year. Recurrence interval is the reciprocal of probability of occurrence times 100, and is the average number of years between exceedances. It is emphasized that recurrence interval is an average interval. For instance, a flood having a probability of occurrence of 2 percent has a recurrence interval of 50 years. This does not mean that each 50 years this flood will be exceeded, but that on the average it will be exceeded once every 50 years. In fact, it may be exceeded in successive years, or even twice in the same year.

Flood-frequency relations at stream-gaging stations were defined by fitting the logarithms of annual peak discharges to a Pearson Type III distribution using the Water Resources Council Guidelines as described in Bulletin 17 (1976) and using U.S. Geological Survey computer programs.

Many flood records, particularly for smaller basins, were collected during the 10-year period 1966-75. For a large part of the State, this period included several outstanding floods. A study was made, using all stations having 25 years or more of record, to relate flood-frequency curves using the 1966-75 period to the frequency curve using the entire period of record. Ratios of the short-term discharges to the long-term discharges at 2, 5, 10, 25, 50, and 100-year recurrence intervals were 1.1, 1.2, 1.3, 1.5, 1.6, and 1.7 respectively. Frequency curves for gaging stations having record only for the period 1966-75, exclusive of the 51 rainfall-runoff modeled stations, were adjusted by applying the ratios to the respective recurrence interval discharges.

Regional Analysis

Standard multiple linear regression techniques were used to determine the relation of basin and climatic parameters to flood peaks of selected recurrence intervals. The model used in the regression analysis is of the form,

$$Q_T = a\ A^b\ P^c \text{-------}$$

where Q_T = peak discharge in cubic feet per second for recurrence interval T,

a = regression constant,
b,c = regression coefficients, and
A,P = basin and climatic parameters.

Floods for recurrence intervals 2, 5, 10, 25, 50, and 100 years were regressed against areal parameters. The regression analysis indicated that the independent variables drainage area (A) and slope (S) were the most significant variables to use in estimating flood-peak discharges on Virginia streams. Inclusion of additional independent variables did not reduce the standard error of estimate by any substantial amount.

After numerous regression analysis were made from various subsets of the sample data it was decided to use one equation for each recurrence interval and apply each statewide. Graphical plots of residual errors, the ratios of observed to computed flood magnitudes, for the 5, 25, and 100 year flood regressions showed almost identical areal biases. The state was then divided into six hydrologic areas by grouping stations with residuals of like size. The average of the residuals for each hydrologic area (plate 2) was then used to obtain a regional factor (RF) for each area.

The hydrologic-area boundaries follow drainage-area boundaries except where the boundary between areas D and E crosses the Roanoke River and the boundary between E and A crosses the Nottoway River. Boundary lines cross the Appomattox and Rappahannock Rivers at points below which the streams are tide affected and equations in this report are not applicable.

For the Roanoke and Nottoway Rivers which cross regional boundaries the frequency of discharges for each area should be computed and the weighted discharge based on percent of drainage area in each hydrologic area used as the final discharge. The boundary between areas A and B cross at the point of confluence of the North Anna and South Anna Rivers which form the Pamunkey River and at the point of confluence of the Matta and Poni Rivers which form the Mattaponi River. Regional factor for area A should be used downstream from the confluence and regional factor for area B should be used upstream from the confluence.

The main stem of the James River traverses three hydrologic areas. A family of curves was drawn showing the relation of selected flood frequencies to distance above mouth of stream. These curves are shown in figure 1 and should be used to determine frequency discharges for ungaged and gaged sites on the main stem of the James River.

SUMMARY

Flood records were tabulated at 299 gaging stations in Virginia. The flood-frequency relations were derived for most stations having 10 or more years or record by fitting the array of logarithms of annual peaks to a Pearson Type III distribution following Water Resources Council Bulletin 17 guidelines. Floods of selected recurrence intervals from the 2-year through the 100-year level are tabulated for each record. Many of the flood records collected during the 1966-75 period are not indicative of long-term conditions because of unusual flooding during the period. An adjustment, based on stations having 25 or more years of record, was developed and applied to the short-term frequency curves to make them more representative of long-term conditions.

Drainage area and slope proved to be significant basin characteristics and were used in defining the relations. The drainage area for gages varied between 0.1 and 8,000 square miles and the slope varied between 1.6 and 1,320 feet per mile. A plot of residuals on a map indicated the need for a regional factor to correct for areal biases.

The relations are applicable within a region to estimate flood-frequency discharges for any ungaged site not materially affected by cultural changes. Results from the use of a weighted estimate combining the station data and the regression estimate with the equivalent-years-of-record concept are considered more reliable than use of individual station frequency curves for gaged sites exclusive of the James River main stem stations.

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APPENDIX

APPENDIX

EXPLANATION OF TABLES

Station frequency data

Table 2 shows the flood discharges for the 2, 5, 10, 25, 50, and 100-year recurrence intervals for the gaging station records analyzed.

Basin characteristics

Table 3 lists for 403 gaging stations the following basin characteristics: drainage area in square miles, slope in feet per mile, length in miles, elevation in feet above mean sea level, storage in percent of drainage area plus one percent, forest in percent of drainage area plus one percent, precipitation in inches, precipitation intensity in inches, snowfall in inches, and January minimum minimum temperature in degrees Fahrenheit.

Maximum known peak discharges

Maximum discharge information for 363 sites is summarized in table 4. This summary includes peak data for daily-discharge gaging stations, crest-stage gaging stations, flood-hydrograph gaging stations, and discontinued gaging stations. Sites are listed in the downstream order used in U.S. Geological Survey Water-Supply Papers since 1951 and identified by the permanent eight-digit number used in U.S. Geological Survey annual series of surface-water reports.

In the table, the column showing the period of known floods is not necessarily the same as the period for which the gaging station has been operated. For instance, if a gaging station has been operated since 1942 but experienced a flood in 1936 for which the peak stage and discharge has been determined to be the greatest since at least 1877, the period of known floods would be shown as 1877-1976, and the peak discharge for the 1936 flood would be listed. If the 1936 peak was the greatest known for the period 1877 to the time the gage was installed in 1942 but was subsequently exceeded by a flood in 1969, the period of known floods would be 1877-1976, and the peak discharge for the 1969 flood would be listed. If a station established in 1901 was discontinued in 1942 and the maximum flood or record is known not to have been exceeded since discontinuance the period would be shown as 1901-76. If the August 1969 flood peak is the maximum known for period 1943-76 and also exceeded the maximum for period of record 1901-42, the period of known floods would be 1901-76 and the peak discharge for the 1969 flood would be listed.

The date is given for the maximum flood for which a discharge has been determined. Peak discharge is listed in cubic feet per second (cfs) and in cubic feet per second per square mile (cfsm). Figure 2 shows the relation of the peak discharge, expressed in cubic feet per second per square mile, to the size of drainage basin. This graph

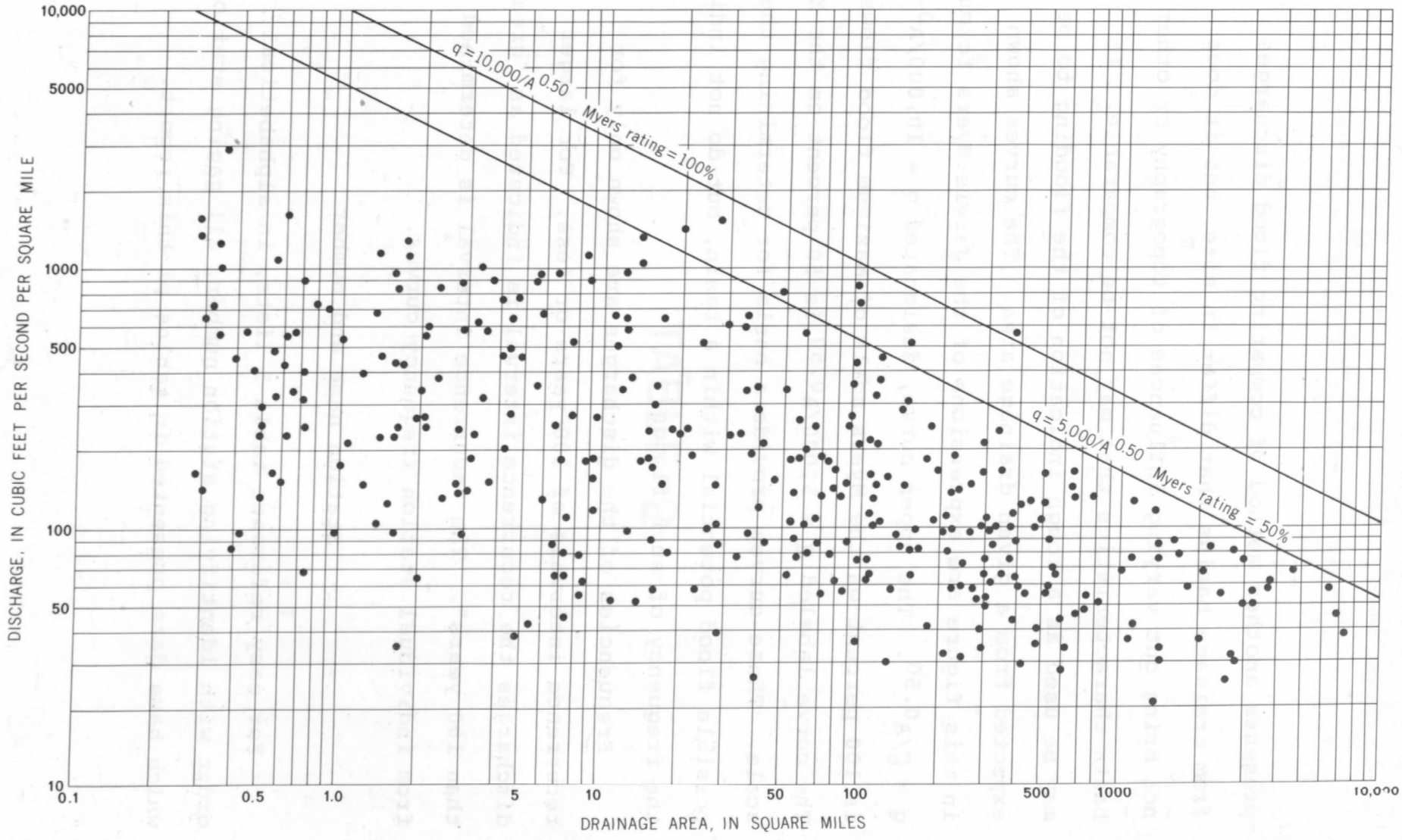

Figure 2. Graph showing relation of peak unit discharge to drainage area.

presents another method of comparing flood discharges from drainage basins that differ in size, but it does not bring out varying influences of topography or other basin characteristics that may not be comparable. It may be used as a rough indication of the flooding to be expected from a given drainage area. The curves shown in this figure are expressions of the Jarvis-Myers formula, $q = C/A^{0.50}$. The upper curve, designated $q = 10{,}000/A^{0.50}$, is 100 percent on the Myers scale of Maximum flood flows. The curve labeled $q = 5{,}000/A^{0.50}$ is 50 percent on the Myers scale. These curves provide a basis for determining the possible flood potential within a basin, but do not indicate the frequency of such floods.

Frequencies of the discharges are shown only for recurrence intervals of 100 years or less. For larger discharges the recurrence interval is indicated as "greater than 100 years". The recurrence interval is determined from individual station frequency curves.

Station name and number

For easy reference table 5 lists, in alphabetical order with identifying station number, all gaging stations which have data presented in tables of this report.

TABLE 2

Table 2.--Station frequency data.

Station	Q_2	Q_5	Q_{10}	Q_{25}	Q_{50}	Q_{100}
1484800	29	42	53	70	84	100
1613900	747	1330	1850	2690	3470	4410
1615000	2020	3580	4960	7210	9300	11800
1616000	339	578	784	1110	1400	1750
1620500	719	1500	2290	3720	5180	7070
1621000	2250	3680	4890	6760	8440	10400
1621200	554	965	1330	1910	2450	3080
1621400	480	720	911	1190	1430	1700
1621450	48	108	178	307	448	634
1622000	7270	12500	16900	23900	30100	37300
1622300	47	61	68	74	81	88
1622400	53	71	82	90	100	110
1625000	5960	10300	13700	18400	22200	26200
1626000	2940	6330	9780	16000	22300	30500
1627300	98	183	255	353	457	581
1627500	5500	11200	16400	24900	32900	42400
1628500	17100	31200	43200	61600	77900	96500
1628600	55	66	72	75	80	85
1629400	51	78	95	115	134	156
1629500	19600	37100	53200	79400	104000	133000
1629945	134	323	551	1020	1550	2310
1631000	21000	39500	56000	82200	106000	134000
1632000	8400	15000	20200	27900	34200	41200
1632900	1920	3930	5930	9490	13100	17600
1632950	31	64	94	135	168	205
1633000	9800	16500	22300	31200	39200	48500
1633500	1990	3780	5460	8270	11000	14300
1633700	61	152	247	412	574	778
1634000	10800	19700	28100	42400	56200	73200
1634500	2450	5290	8290	13900	19900	27700
1635500	2280	4740	7260	11900	16700	22900
1636210	729	1200	1610	2240	2810	3480
1644000	6680	13500	20100	31800	43300	57900
1644100	302	542	821	1370	1950	2740
1645700	469	731	950	1290	1590	1940
1646000	1530	2960	4450	7220	10100	14000
1646200	1050	2160	3340	5560	7910	11100
1654500	392	847	1340	2300	3350	4770
1655350	887	1450	1950	2750	3490	4380
1655500	888	1980	3150	5370	7730	10900
1656000	2990	5590	8130	12600	17000	22600
1656200	102	142	172	215	251	290
1656500	1730	3690	5760	9650	13800	19300
1656600	190	337	426	546	651	773
1657000	6150	9960	13800	20600	27700	36900
1657500	12500	19900	26100	35700	44400	54400
1658500	506	1020	1540	2510	3520	4850
1661800	162	250	324	438	540	659
1662000	3890	6870	9630	14300	18800	24300
1662300	56	105	154	240	325	428

Table 2.--Station frequency data.

Station	Q_2	Q_5	Q_{10}	Q_{25}	Q_{50}	Q_{100}
1662500	511	891	1230	1790	2310	2940
1662800	836	1240	1570	2070	2500	2990
1663000	5500	11000	16600	26500	36700	49900
1663500	7370	14200	21100	33500	46100	62600
1664000	10900	18000	24300	34400	43700	54800
1664500	10900	18500	25300	36300	46600	59000
1664800	241	541	840	1390	1970	2730
1665000	657	1520	2490	4400	6530	9460
1665050	48	97	149	241	334	460
1665200	74	157	239	371	520	718
1665500	3650	7980	12600	21100	30100	42000
1666500	4710	9490	14400	23200	32400	44300
1667000	8310	17000	25600	40800	56000	75500
1667500	8720	17200	25700	40700	55800	75100
1667600	80	111	147	201	252	306
1668000	26100	41500	54700	75700	94700	117000
1668200	91	243	418	769	1160	1710
1668300	122	310	521	937	1400	2040
1668500	558	1200	1900	3260	4740	6780
1668800	137	309	502	887	1320	1910
1669000	301	661	1060	1830	2690	3860
1669300	28	52	75	107	141	185
1669500	569	1210	1900	3200	4590	6460
1670000	94	202	319	545	789	1120
1670100	53	132	214	370	536	761
1671000	5610	9450	12900	18400	23600	29700
1671100	1560	3460	5420	8730	12600	17700
1671500	268	560	868	1450	2060	2870
1671615	129	285	433	700	978	1340
1671650	370	589	777	1070	1340	1650
1671750	806	1080	1280	1570	1810	2060
1672400	42	118	213	403	644	1010
1672500	3880	6560	9020	13100	17100	21900
1673000	8740	14400	19300	27300	34700	43600
1673500	113	211	305	471	636	845
1673800	1920	3660	5390	8460	11600	15600
1674000	3280	5930	8370	12400	16300	20900
1674100	144	272	381	559	731	942
1674200	197	347	487	723	951	1230
1674500	3680	6610	9180	13300	17000	21400
2009500	32	45	70	135	220	355
2011500	6090	8300	9900	12100	13800	15700
2012500	10400	15800	19800	25400	29900	34700
2012950	104	184	248	329	412	509
2013000	4720	7450	9530	12500	14900	17400
2014000	3660	5830	7570	10100	12300	14700
2014500	416	726	998	1430	1830	2300
2015600	351	834	1370	2410	3530	5060
2015700	3670	5090	6140	7600	8780	10000
2015900	83	138	180	232	284	343

Table 2.--Station frequency data.

Station	Q_2	Q_5	Q_{10}	Q_{25}	Q_{50}	Q_{100}
2016000	10300	15400	19400	25400	30400	36000
2016500	29500	46200	58600	75700	89300	104000
2017300	3170	4950	6470	8850	11000	13500
2017400	81	179	281	470	667	924
2017500	2900	4410	5540	7120	8410	9800
2017700	261	469	621	832	1010	1210
2018000	7390	10900	13600	17400	20500	23900
2018500	1410	2400	3260	4620	5860	7310
2019000	2890	5370	7680	11600	15300	19800
2019400	2180	4180	6120	9490	12800	17100
2019500	37800	56600	70300	88900	104000	119000
2020100	324	587	867	1400	1950	2680
2020200	671	1560	2400	3770	5090	6710
2020500	5660	9800	13300	18800	23600	29300
2021000	6750	11500	15700	22300	28300	35400
2021500	9450	15000	19400	25700	31100	37100
2021700	408	1170	2100	4080	6440	9880
2022500	2150	4590	7100	11700	16300	22400
2023000	9610	14800	18700	24200	28800	33700
2023300	802	1440	2010	2960	3840	4910
2023500	2680	6680	11300	20800	31500	46400
2024000	11500	17800	23100	31400	38800	47300
2024500	18300	29100	38100	51800	63900	77900
2025000	3060	6550	10200	16800	23700	32800
2025500	49300	70600	84600	102000	115000	127000
2026000	51000	72800	87800	107000	122000	138000
2026500	2650	4490	6110	8690	11100	13900
2027000	3620	7250	11000	17900	25100	34600
2027500	1770	4140	6810	12000	17800	25700
2027700	26	62	101	165	239	339
2027800	4510	9750	15000	23400	32900	45400
2028000	8000	19800	33700	62400	95500	143000
2028500	3780	8850	14600	26100	38800	56600
2028700	404	793	1180	1850	2530	3390
2029000	57900	89800	114000	148000	176000	206000
2029200	275	910	1840	4140	7240	12200
2029400	671	1570	2580	4580	6810	9870
2029450	30	102	205	439	769	1300
2029500	2740	5130	7430	11400	15300	20200
2030000	2800	6490	10700	19400	29200	43000
2030100	304	620	947	1550	2170	2990
2030500	4290	8080	11900	18900	26000	35400
2030800	173	309	422	571	725	912
2031500	621	1280	1950	3180	4450	6110
2032500	6420	12900	19400	31400	43900	60100
2032530	645	1070	1510	2360	3250	4400
2032540	535	871	1160	1610	2020	2500
2033300	255	537	808	1230	1710	2320
2034000	14400	29000	43800	70400	97500	133000
2034050	210	460	705	1160	1650	2330

Table 2.--Station frequency data.

Station	Q_2	Q_5	Q_{10}	Q_{25}	Q_{50}	Q_{100}
2034250	35	83	137	247	370	544
2034300	400	461	502	554	593	633
2035000	68000	104000	134000	179000	218000	263000
2035450	56	96	128	170	214	268
2036500	399	1000	1750	3330	5210	7970
2037500	72500	117000	153000	206000	253000	305000
2037800	368	736	1160	1950	2770	3860
2038000	542	1070	1620	2610	3630	4970
2038500	1070	2220	3440	5730	8180	11400
2038800	434	930	1460	2450	3500	4900
2038840	242	349	434	556	660	775
2038845	52	118	191	332	485	694
2038850	497	1040	1590	2700	4050	6060
2038900	590	858	1070	1390	1660	1960
2039000	1370	2930	4580	7630	10800	15000
2039500	4250	8410	12500	19600	26700	35600
2040000	5780	10200	14200	21100	27800	36000
2040500	1690	2150	2490	2960	3330	3720
2040600	77	166	264	463	694	1020
2041000	2910	5000	6890	9960	12800	16300
2041500	7760	11100	13800	17800	21300	25300
2042200	28	99	208	499	916	1630
2042250	45	88	127	185	249	330
2042500	1400	2470	3470	5170	6820	8860
2042700	121	286	481	883	1350	2010
2042710	25	34	41	51	59	68
2043500	613	921	1170	1560	1900	2290
2044000	1910	3220	4390	6290	8080	10200
2044200	103	174	240	353	460	595
2044400	144	344	589	1130	1790	2770
2044500	4180	7710	11200	17200	23300	31000
2045500	5400	8720	11600	16300	20600	25700
2046000	1710	3370	5040	8060	11200	15200
2046500	68	152	245	429	633	915
2046900	57	72	79	86	94	102
2047000	7920	13400	18500	27000	35000	44900
2047500	1880	3330	4670	6900	9030	11600
2048000	2420	4140	5710	8320	10800	13800
2048400	310	654	1020	1720	2480	3490
2049500	2920	5030	6990	10300	13400	17300
2049700	136	297	507	909	1330	1890
2050050	164	295	441	692	932	1230
2050400	281	433	570	797	987	1220
2050500	783	1050	1260	1540	1780	2030
2051000	2650	4150	5450	7470	9300	11500
2051400	69	161	253	423	607	856
2051500	6710	10200	13300	18100	22600	27800
2051600	950	2670	4940	10100	16600	26600
2051650	115	174	217	267	319	379
2052000	8200	12200	15600	20700	25200	30400

Table 2.--Station frequency data.

Station	Q_2	Q_5	Q_{10}	Q_{25}	Q_{50}	Q_{100}
2052500	1270	2480	3700	5890	8150	11100
2053800	1690	2940	4070	5920	7660	9760
2054500	5710	9030	11700	15600	19000	22700
2055000	7380	11600	14700	19000	22400	26000
2055100	765	1540	2300	3650	5010	6740
2056000	10000	15200	19000	24200	28400	32900
2057000	4540	8430	12000	18000	23600	30500
2057500	15800	25200	32500	43000	51800	61300
2057700	119	159	204	292	384	504
2058000	1810	3500	5150	8020	10900	14400
2058400	7070	10500	13300	17400	20900	24800
2058500	8060	12600	16300	22000	26900	32600
2059450	439	849	1250	1960	2660	3550
2059500	5350	9540	13300	19400	25000	31800
2060500	29500	43800	54200	68500	79900	92000
2061000	4090	7410	10500	15600	20500	26500
2061150	130	301	513	958	1470	2190
2061300	559	906	1200	1660	2070	2550
2061500	7000	12100	16700	24100	31000	39300
2062500	23700	36100	47300	65400	82400	103000
2063600	60	120	197	358	544	810
2064000	3990	7420	10700	16400	22100	29100
2065100	206	417	632	1020	1420	1940
2065300	147	316	482	747	1040	1430
2065500	1560	2480	3240	4400	5430	6610
2066000	33700	50400	64100	85000	103000	125000
2067000	35400	53500	67300	86900	103000	120000
2069600	234	506	853	1530	2250	3220
2069700	2340	4210	5900	8700	11300	14500
2070000	2710	4750	6640	9820	12900	16700
2072500	11500	20500	28700	42100	54700	69900
2074500	3420	5940	8230	12000	15500	19900
2075000	25700	35500	43100	54000	63300	73500
2075350	87	163	228	343	448	575
2075450	211	465	739	1260	1810	2530
2076000	28500	39200	47400	59000	68800	79400
2076200	545	994	1410	2110	2780	3610
2076500	403	781	1150	1800	2440	3250
2076600	165	239	290	343	399	459
2076700	265	518	766	1210	1650	2220
2077000	6480	11200	15600	22800	29600	37900
2077500	2980	4440	5610	7350	8860	10600
2078000	5040	7780	10100	13500	16600	20100
2079000	71000	100000	123000	154000	180000	208000
2079640	1850	3130	4170	5510	6940	8590
2079720	77	115	134	153	173	194
3164000	19100	29100	37300	49600	60300	72600
3165000	1580	2900	4110	6120	8030	10300
3165500	21000	31400	40800	56500	71400	89600
3167000	4450	6670	8360	10800	12800	15000

Table 2.--Station frequency data.

Station	Q_2	Q_5	Q_{10}	Q_{25}	Q_{50}	Q_{100}
3167500	5890	8330	10100	12600	14600	16700
3168000	31400	46600	58200	74800	88600	104000
3168500	2080	3190	4070	5360	6460	7690
3168600	25	61	101	179	264	379
3168750	107	316	586	1180	1890	2950
3169350	86	209	354	647	976	1430
3170000	6630	10200	12700	16200	19000	22000
3171000	37900	66000	92300	137000	181000	235000
3171150	43	114	202	385	597	900
3171500	32100	56500	81900	130000	181000	249000
3173000	6920	9470	11300	13800	15800	17800
3175500	5730	7580	8740	10100	11200	12100
3176500	37900	66000	94000	144000	196000	263000
3207400	938	1800	2600	3890	5100	6540
3207500	10300	17000	22000	28900	34500	40400
3208500	14000	23700	31100	41200	49300	57800
3208950	2670	4790	6590	9370	11800	14600
3209000	9670	15000	19000	24600	29200	34100
3471100	212	327	418	552	665	790
3471500	1950	2790	3410	4270	4970	5720
3472500	2040	3110	3930	5110	6080	7140
3473000	6720	9300	11100	13400	15200	17100
3473500	212	349	461	631	781	950
3473800	209	271	314	370	413	457
3474000	3490	5140	6360	8070	9450	10900
3474500	3860	6260	8220	11100	13700	16500
3475000	3700	5230	6350	7880	9110	10400
3478400	426	702	927	1260	1550	1880
3487800	1270	1870	2320	2950	3470	4040
3487900	249	383	488	640	768	910
3488000	5940	8750	10900	13900	16500	19200
3488500	9770	14700	18400	23600	27900	32600
3489500	9370	13900	17300	22100	25900	30000
3489800	813	1160	1420	1770	2050	2340
3489870	1970	2830	3460	4320	5020	5760
3489900	2370	3310	3980	4870	5570	6310
3490000	14100	20200	24700	31000	36200	41800
3521500	3510	4980	5950	7180	8100	9010
3524000	10800	15600	18900	23400	26800	30400
3524500	3060	4750	6000	7750	9150	10700
3525000	3120	4970	6410	8510	10300	12200
3525800	96	157	205	276	336	403
3526000	3000	4440	5500	6980	8180	9460
3527000	21500	30500	36500	43800	49200	54600
3529500	5640	8720	11100	14400	17100	20000
3530000	2330	3190	3780	4540	5130	5740
3530500	4410	6270	7610	9430	10900	12400
3531000	13200	18900	22800	28200	32400	36700
3531500	12300	18500	22900	28800	33400	38200

TABLE 3

Table 3.--Basin characteristics at gaging stations.

Station	AREA	SLOPE	LENGTH	ELEVATION	STORAGE
1484800	1.72	14.80	3.10	20	1.00
1613900	15.00	167.00	7.90	1200	2.50
1615000	57.40	17.40	20.20	760	1.00
1616000	16.50	37.80	9.90	800	1.00
1620500	17.20	148.00	9.60	3330	1.00
1621000	72.60	107.00	15.00	2870	1.00
1621200	9.45	88.20	4.60	1830	1.00
1621400	5.52	37.90	4.40	1350	1.05
1621450	0.72	176.00	1.40	1290	1.58
1622000	379.00	43.20	38.90	2040	1.04
1622100	1.55	100.00	2.90	1250	2.00
1622300	0.55	973.00	1.50	2000	1.00
1622400	0.49	950.00	1.00	1800	3.00
1624000	9.60	52.50	5.30	1550	1.02
1624300	178.00	17.10	30.10	2000	1.05
1624800	70.10	26.70	19.40	1550	1.00
1625000	375.00	10.20	64.00	1600	1.04
1626000	127.00	15.30	23.40	1820	1.13
1626500	144.00	15.20	25.20	1790	1.13
1627300	2.41	249.00	3.00	1370	1.00
1627500	212.00	10.60	41.80	1740	1.11
1628500	1084.00	27.40	55.60	1750	1.05
1628600	0.42	846.00	1.60	1540	1.00
1629400	0.54	653.00	2.00	1280	1.30
1629500	1377.00	12.90	97.20	1680	1.05
1629945	3.16	272.20	2.40	1470	1.00
1631000	1642.00	7.73	145.00	1600	1.04
1632000	210.00	44.30	25.80	2020	1.00
1632300	8.15	48.80	5.40	1260	1.00
1632900	93.20	20.50	25.10	1400	1.00
1632950	0.31	500.00	1.00	1450	1.00
1632970	6.49	61.80	4.50	1200	1.00
1633000	506.00	24.30	45.90	1670	1.01
1633500	79.40	28.60	20.40	2030	1.00
1633650	3.66	292.10	2.50	1510	1.00
1633700	0.56	673.00	1.50	1340	1.00
1634000	768.00	9.86	103.00	1430	1.01
1634500	103.00	33.00	23.40	1350	1.00
1635200	0.48	618.00	1.80	840	1.00
1635500	87.80	34.30	31.10	1490	1.02
1636210	14.00	212.00	5.40	1330	1.02
1638480	89.60	14.10	27.50	600	1.00
1643700	123.00	16.80	22.90	700	1.00
1644000	332.00	8.25	40.60	660	1.00
1644100	2.05	71.70	3.10	560	1.00
1644200	1.09	19.60	3.70	400	1.00
1644250	4.12	13.50	6.90	360	1.00
1644291	0.08	166.60	0.35	400	1.00
1644295	0.32	125.00	0.80	410	1.00
1645700	4.29	50.00	2.40	410	1.00

Table 3.--Basin characteristics at gaging stations.

Station	FOREST	PRECIPITATION I24,2		SNOWFALL	JANUARY MINIMUM
1484800	20	44.00	3.43	7.30	31.40
1613900	70	37.00	2.80	23.40	24.20
1615000	38	38.40	3.04	22.50	24.80
1616000	42	38.30	2.93	22.90	25.10
1620500	98	42.10	3.65	24.70	22.00
1621000	100	39.10	2.80	24.50	21.50
1621200	74	35.50	2.80	25.20	22.20
1621400	2	38.50	3.00	28.00	22.80
1621450	8	37.40	2.83	27.10	23.40
1622000	52	39.00	3.09	25.40	22.20
1622100	25	39.00	3.24	27.00	24.00
1622300	95	39.50	2.95	24.30	24.70
1622400	63	37.80	2.88	24.60	25.00
1624000	15	37.40	2.84	24.40	26.10
1624300	65	37.20	2.84	25.00	25.10
1624800	40	38.90	3.19	24.00	26.90
1625000	30	39.30	3.04	24.40	25.50
1626000	67	45.90	3.95	21.30	26.30
1626500	63	45.60	3.95	21.30	26.30
1627300	60	39.70	3.45	25.00	26.50
1627500	61	43.90	3.85	21.80	26.60
1628500	45	40.20	3.25	24.40	24.50
1628600	82	42.00	3.80	30.00	24.00
1629400	80	41.00	3.19	24.10	23.30
1629500	54	41.40	3.36	25.40	24.10
1629945	57	49.00	4.35	25.60	21.60
1631000	50	41.60	3.45	25.10	24.10
1632000	89	35.80	3.09	24.00	21.00
1632300	15	37.40	2.90	24.50	24.20
1632900	50	38.00	3.58	23.80	24.20
1632950	98	35.20	2.87	23.30	23.80
1632970	45	35.20	2.78	23.30	23.80
1633000	53	37.00	3.14	24.60	22.40
1633500	86	34.00	2.80	23.20	23.40
1633650	60	35.20	2.52	22.50	23.90
1633700	56	34.80	2.63	22.40	23.90
1634000	50	36.50	3.03	23.90	23.00
1634500	86	34.60	2.87	22.60	23.80
1635200	99	35.20	3.05	21.70	24.80
1635500	81	38.70	3.25	22.50	24.70
1636210	58	36.60	3.50	20.60	23.90
1638480	30	41.30	3.19	20.20	23.50
1643700	40	39.80	3.18	20.30	24.30
1644000	35	40.00	3.18	20.40	23.80
1644100	17	39.90	3.00	20.50	24.40
1644200	31	38.90	3.02	19.00	24.80
1644250	28	39.00	3.03	18.90	24.90
1644291	90	38.90	3.30	15.40	25.50
1644295	85	38.90	3.30	15.40	25.50
1645700	73	39.50	3.55	16.70	26.70

Table 3.--Basin characteristics at gaging stations.

Station	AREA	SLOPE	LENGTH	ELEVATION	STORAGE
1646000	57.90	16.00	13.30	360	1.00
1646200	4.69	54.00	4.20	363	1.00
1652500	14.40	45.40	7.20	220	1.01
1653000	33.70	32.90	10.90	270	1.00
1654000	23.50	19.30	10.00	320	1.00
1654500	3.71	46.70	4.00	350	1.00
1655000	37.00	15.80	15.60	300	1.00
1655350	15.00	23.80	10.00	340	1.00
1655500	12.30	77.10	4.80	640	1.00
1656000	93.40	18.30	20.30	430	1.00
1656200	2.94	187.00	2.00	788	1.00
1656500	50.50	23.60	16.30	610	1.00
1656600	0.79	80.80	1.80	380	1.53
1656700	343.00	7.70	42.20	360	1.00
1656725	25.80	28.20	7.30	440	3.00
1657000	148.00	7.50	26.50	380	1.00
1657500	570.00	6.34	53.60	350	1.01
1658500	7.64	29.20	4.80	340	1.00
1660400	34.90	14.30	13.50	310	2.00
1661600	6.98	19.00	3.50	80	2.60
1661800	6.82	20.30	4.20	80	1.00
1662000	195.00	20.70	23.90	770	1.00
1662300	1.38	880.00	2.00	2210	1.00
1662500	14.70	243.00	7.50	1410	1.00
1662600	0.09	900.00	0.60	680	1.00
1662800	27.60	50.00	9.20	1500	1.00
1663000	142.00	47.30	19.80	1060	1.00
1663500	287.00	29.50	31.70	980	1.00
1664000	620.00	9.43	39.70	790	1.00
1664500	641.00	7.83	44.20	770	1.00
1664800	2.28	59.40	2.10	350	2.60
1665000	15.90	35.70	5.50	420	1.00
1665050	0.30	400.00	0.80	465	1.00
1665200	1.00	54.50	1.50	340	1.00
1665300	37.60	165.00	14.80	1970	1.16
1665400	25.80	167.00	11.50	1840	1.00
1665450	18.80	249.00	8.20	1640	1.20
1665500	114.00	89.50	22.80	1540	1.00
1666500	179.00	35.00	30.20	940	1.00
1667000	446.00	19.20	48.00	1000	1.00
1667500	472.00	14.90	54.60	860	1.00
1667600	0.58	71.40	0.90	360	1.00
1668000	1596.00	6.64	70.20	660	1.20
1668200	2.82	50.00	2.40	150	1.00
1668300	2.18	46.70	2.00	120	1.00
1668500	45.60	13.50	10.40	110	1.01
1668800	15.50	12.50	8.00	110	1.00
1669000	28.00	14.00	7.60	120	1.00
1669300	1.37	25.00	1.90	110	1.00
1669500	84.90	4.08	19.70	120	1.00

Table 3.--Basin characteristics at gaging stations.

Station	FOREST	PRECIPITATION	I24,2	SNOWFALL	JANUARY MINIMUM
1646000	60	39.00	3.29	16.70	25.60
1646200	50	39.00	3.70	15.50	27.00
1652500	14	39.00	3.70	14.90	28.40
1653000	46	39.30	3.66	15.20	27.20
1654000	65	39.70	3.61	15.80	26.30
1654500	65	39.40	3.65	15.10	27.80
1655000	65	38.80	3.46	14.20	29.10
1655350	60	39.00	3.50	14.50	27.00
1655500	33	39.90	3.25	18.40	24.30
1656000	36	40.40	3.29	17.30	25.00
1656200	32	40.30	3.18	18.90	24.00
1656500	38	40.10	3.16	18.50	24.40
1656600	61	40.40	3.15	17.80	25.00
1656700	45	40.80	3.22	15.20	25.80
1656725	40	39.60	3.04	15.70	25.10
1657000	47	39.70	3.11	17.70	25.20
1657500	47	40.30	3.21	17.30	25.30
1658500	97	40.50	3.10	15.20	26.00
1660400	65	40.30	3.27	14.20	26.30
1661600	66	41.60	3.08	10.00	29.00
1661800	85	41.70	3.08	11.20	29.00
1662000	44	39.20	3.36	19.50	23.60
1662300	100	46.10	4.21	24.20	23.60
1662500	62	40.00	3.87	21.60	23.40
1662600	50	42.50	3.85	20.60	23.30
1662800	55	41.50	3.70	19.80	23.40
1663000	53	43.00	3.88	22.00	23.30
1663500	41	39.80	3.93	22.60	23.50
1664000	43	40.20	3.65	20.70	23.70
1664500	43	40.70	3.64	20.50	23.80
1664800	75	46.00	3.26	14.50	25.40
1665000	35	41.50	3.81	17.20	24.40
1665050	52	42.40	3.58	14.90	25.40
1665200	98	41.30	3.43	14.70	25.70
1665300	86	48.50	4.30	20.00	22.00
1665400	86	48.00	4.20	20.00	23.00
1665450	76	50.00	4.15	20.00	23.00
1665500	65	48.00	4.20	23.30	22.30
1666500	65	42.50	3.90	21.00	23.80
1667000	60	39.90	3.54	14.00	26.70
1667500	53	43.20	3.67	19.20	24.00
1667600	70	41.70	3.60	14.70	25.90
1668000	54	42.50	3.49	20.00	24.30
1668200	69	40.40	3.68	13.90	28.90
1668300	68	41.50	3.45	13.30	28.00
1668500	82	41.20	3.31	13.90	28.10
1668800	75	42.20	3.31	13.90	27.40
1669000	69	42.20	3.52	13.00	27.20
1669300	79	43.40	3.25	12.40	29.00
1669500	71	43.20	3.35	12.90	28.80

Table 3.--Basin characteristics at gaging stations.

Station	AREA	SLOPE	LENGTH	ELEVATION	STORAGE
1669800	4.81	26.60	3.30	70	2.40
1670000	6.63	10.90	4.20	90	1.00
1670100	0.50	758.00	0.90	640	1.00
1671000	441.00	3.64	58.60	320	1.00
1671100	107.00	5.02	31.90	290	1.02
1671500	4.37	32.80	4.20	420	1.00
1671615	0.61	109.40	0.85	570	2.00
1671650	2.85	45.90	2.90	460	1.00
1671750	3.31	33.30	2.80	480	1.00
1672400	0.33	112.00	1.00	240	1.00
1672500	394.00	2.92	82.10	350	1.00
1672900	0.71	131.00	1.20	100	1.00
1673000	1081.00	3.48	82.50	310	1.00
1673500	5.89	14.50	5.10	170	1.00
1673800	77.40	8.70	20.00	340	1.00
1674000	257.00	6.89	37.70	280	1.00
1674100	1.64	44.40	1.80	260	1.00
1674200	16.80	8.96	9.00	180	1.00
1674500	601.00	3.42	74.10	210	1.01
1674700	6.17	28.70	4.00	120	1.00
2009500	0.74	800.00	2.00	2380	1.00
2011500	134.00	44.40	33.40	2890	1.00
2012500	411.00	25.30	57.60	2480	1.00
2012950	0.66	592.00	1.70	2330	1.00
2013000	164.00	40.50	27.30	2230	1.00
2014000	153.00	27.30	39.80	2320	1.01
2014500	12.40	259.00	6.50	2250	1.00
2015600	11.30	63.30	6.40	2450	1.00
2015700	110.00	41.50	22.90	2200	1.00
2015900	0.55	223.00	1.40	1360	1.00
2016000	461.00	12.40	74.30	2030	1.00
2016500	1373.00	15.30	93.40	2210	1.01
2017000	13.80	161.00	7.90	2220	1.00
2017300	112.00	26.00	30.30	2000	1.00
2017400	1.57	480.00	3.00	2160	1.00
2017500	104.00	22.20	35.30	2210	1.00
2017700	2.05	295.00	3.00	1740	1.00
2018000	329.00	12.10	65.10	2150	1.00
2018500	34.30	37.80	17.00	1880	1.00
2018700	1.51	412.00	2.30	2110	1.00
2018800	4.17	164.00	4.40	2840	1.00
2019000	104.00	29.80	32.80	1500	1.00
2019400	29.60	41.60	10.20	1280	1.00
2019500	2075.00	11.50	131.00	2080	1.01
2020100	2.06	258.00	3.20	1660	1.00
2020200	12.80	156.00	6.00	2420	1.00
2020500	144.00	21.30	32.40	2520	1.00
2021000	190.00	21.30	32.60	2450	1.00
2021100	1.62	436.00	2.40	2000	1.00
2021500	329.00	18.20	41.80	2200	1.23

Table 3.--Basin characteristics at gaging stations.

Station	FOREST	PRECIPITATION	I24,2	SNOWFALL	JANUARY MINIMUM
1669800	64	44.50	3.24	11.00	30.70
1670000	90	45.70	3.29	12.50	29.50
1670100	82	40.40	3.46	13.00	26.10
1671000	73	41.70	3.47	12.70	27.80
1671100	72	41.80	3.68	12.50	27.80
1671500	75	42.50	3.43	13.00	24.90
1671615	46	40.90	3.41	13.90	25.40
1671650	78	42.30	3.38	12.50	27.00
1671750	86	42.30	3.38	12.50	27.00
1672400	75	42.00	3.68	12.40	27.30
1672500	72	41.80	3.52	12.70	26.70
1672900	48	42.60	3.69	12.30	27.10
1673000	74	42.20	3.60	12.60	27.40
1673500	65	43.00	3.66	12.20	27.50
1673800	88	42.20	3.48	13.20	26.90
1674000	81	42.00	3.51	13.20	27.10
1674100	73	42.00	3.55	12.90	28.10
1674200	85	42.00	3.68	12.50	27.90
1674500	76	42.10	3.59	13.00	27.70
1674700	80	43.00	3.66	12.60	27.30
2009500	70	40.80	2.80	24.20	20.70
2011500	90	40.90	2.86	24.00	20.80
2012500	80	40.80	2.74	23.40	21.20
2012950	68	37.80	2.55	19.60	24.00
2013000	87	38.50	2.56	20.80	23.40
2014000	85	38.60	2.62	19.60	24.40
2014500	99	40.80	3.08	20.60	24.20
2015600	81	40.50	3.30	24.40	21.50
2015700	80	40.10	2.90	24.20	22.20
2015900	99	40.00	2.92	22.00	23.70
2016000	81	40.10	2.84	22.80	22.30
2016500	82	40.00	2.75	22.00	22.50
2017000	37	39.20	3.05	18.00	25.80
2017300	80	40.50	3.00	16.50	26.00
2017400	98	38.30	2.75	18.40	25.40
2017500	90	38.20	2.70	17.30	24.50
2017700	99	40.00	2.95	19.10	25.50
2018000	88	39.40	2.90	17.80	24.90
2018500	68	42.60	3.30	17.50	27.00
2018700	99	41.00	2.85	19.00	25.60
2018800	96	41.50	2.80	19.00	25.70
2019000	60	42.20	3.27	17.70	26.00
2019400	21	42.00	3.40	18.40	27.50
2019500	81	40.40	2.88	20.30	23.80
2020100	70	42.80	3.19	19.50	26.50
2020200	98	41.50	3.55	24.70	22.30
2020500	91	39.70	3.01	24.40	23.20
2021000	91	39.80	2.90	24.20	23.80
2021100	60	39.50	2.80	23.00	23.50
2021500	88	39.90	2.87	23.90	23.80

Table 3.--Basin characteristics at gaging stations.

Station	AREA	SLOPE	LENGTH	ELEVATION	STORAGE
2021700	12.30	112.00	4.90	1510	1.00
2022500	35.00	83.50	10.40	1900	1.00
2023000	487.00	21.10	54.70	1810	1.15
2023300	15.70	162.00	7.00	2750	1.00
2023500	111.00	64.20	23.00	1820	1.00
2024000	646.00	19.40	61.90	1950	1.15
2024500	831.00	16.60	75.70	1880	1.12
2025000	91.00	56.80	24.70	2220	1.77
2025500	3259.00	9.30	169.00	1990	1.06
2025800	2.36	80.60	2.40	920	1.38
2026000	3683.00	8.12	209.00	1900	1.06
2026500	68.00	133.00	17.60	1740	1.00
2027000	92.80	99.40	21.30	1530	1.00
2027500	47.60	151.00	16.50	2080	1.00
2027700	0.46	173.00	1.00	730	1.00
2027800	147.00	27.90	33.40	2000	1.05
2028000	360.00	43.20	34.20	1600	1.06
2028500	94.60	102.00	13.10	1400	1.06
2028700	4.00	233.00	3.20	890	1.00
2028750	19.70	83.00	6.20	970	1.90
2028800	5.42	45.70	3.10	570	2.30
2028900	6.60	27.10	4.60	430	1.70
2029000	4584.00	7.16	248.00	1790	1.06
2029200	11.00	66.10	3.40	739	1.00
2029400	6.59	312.00	3.70	979	1.00
2029410	1.55	168.00	2.50	720	2.60
2029430	1.71	82.40	2.30	560	2.70
2029450	0.28	169.00	1.00	530	1.00
2029500	104.00	20.80	17.60	800	1.00
2030000	116.00	18.90	19.80	800	1.00
2030100	4.35	48.20	3.70	520	1.00
2030500	226.00	8.36	36.80	550	1.03
2030800	2.80	597.00	2.60	2000	1.00
2030900	2.32	1090.00	2.30	1870	3.06
2031000	97.00	18.00	18.60	870	1.01
2031500	11.40	238.00	6.20	2170	1.00
2032200	6.70	379.00	4.30	2280	1.60
2032300	3.36	721.00	3.20	1570	1.80
2032500	216.00	13.00	27.20	1350	1.11
2032530	3.24	240.00	2.00	960	1.00
2032540	4.45	468.00	4.90	1800	1.00
2032550	13.60	219.00	9.20	1680	1.00
2032600	0.35	1320.00	1.50	2150	1.09
2032680	176.00	65.30	14.80	1400	1.00
2032700	1.34	109.00	1.40	400	1.00
2033300	3.52	147.00	2.10	800	1.00
2033500	507.00	8.44	41.10	1000	1.10
2033700	1.76	71.00	2.60	410	1.00
2034000	664.00	6.39	60.60	800	1.09
2034050	1.63	50.00	2.30	480	1.00

Table 3.--Basin characteristics at gaging stations.

Station	FOREST	PRECIPITATION	I24,2	SNOWFALL	JANUARY MINIMUM
2021700	29.	42.00	2.96	22.00	24.30
2022500	77.	39.30	2.85	21.60	24.20
2023000	75.	40.60	2.92	23.20	24.00
2023300	100.	49.00	3.60	21.10	25.50
2023500	64.	46.50	3.25	20.90	24.90
2024000	70.	43.10	3.01	22.60	24.20
2024500	68.	42.70	3.09	22.20	24.40
2025000	82.	44.50	4.25	18.50	25.60
2025500	77.	41.00	3.11	20.60	24.20
2025800	68.	40.20	3.30	15.40	29.20
2026000	77.	41.20	3.14	20.20	24.60
2026500	79.	51.20	4.65	19.50	25.60
2027000	72.	50.70	4.40	19.30	25.60
2027500	81.	49.60	4.48	19.40	25.10
2027700	90.	46.00	3.40	17.00	25.80
2027800	70.	47.40	3.46	18.20	25.40
2028000	65.	49.00	4.17	18.80	25.50
2028500	70.	47.20	4.18	19.60	26.50
2028700	50.	45.00	3.85	18.50	27.00
2028750	71.	47.00	3.70	18.60	26.50
2028800	67.	45.00	3.45	18.00	26.50
2028900	40.	43.30	3.43	17.50	26.50
2029000	76.	42.50	3.31	19.90	24.80
2029200	45.	44.30	3.70	18.20	27.80
2029400	65.	44.00	3.85	18.40	27.60
2029410	72.	45.00	3.49	17.20	27.50
2029430	49.	44.50	3.47	17.50	27.00
2029450	99.	44.50	3.46	17.50	27.00
2029500	72.	44.80	3.53	17.80	27.50
2030000	72.	44.10	3.48	17.60	27.40
2030100	85.	41.50	3.41	16.20	26.30
2030500	84.	42.20	3.51	16.40	26.20
2030800	81.	42.30	4.10	19.80	27.60
2030900	68.	42.50	4.20	19.40	28.20
2031000	60.	43.60	3.98	18.70	28.70
2031500	93.	42.00	3.85	21.30	27.00
2032200	96.	44.00	3.90	20.00	26.50
2032300	69.	45.70	4.15	19.80	26.00
2032500	56.	44.50	4.04	19.30	27.50
2032530	55.	48.30	4.16	19.70	24.10
2032540	78.	48.50	4.15	19.50	24.40
2032550	83.	47.70	4.20	19.20	25.40
2032600	100.	49.30	4.25	22.00	23.50
2032680	60.	46.30	3.43	15.40	27.10
2032700	80.	45.90	3.49	16.50	28.00
2033300	65.	44.80	3.55	17.50	28.10
2033500	60.	45.30	3.37	15.90	27.50
2033700	87.	44.90	3.48	15.50	27.50
2034000	58.	45.40	3.66	17.30	26.60
2034050	71.	42.70	3.41	14.40	25.80

Table 3.--Basin characteristics at gaging stations.

Station	AREA	SLOPE	LENGTH	ELEVATION	STORAGE
2034200	42.30	20.70	12.60	500	1.01
2034250	0.43	80.40	0.70	610	1.00
2034300	7.07	27.30	5.90	500	1.00
2034500	262.00	6.79	43.20	480	1.38
2035000	6257.00	6.16	280.00	1560	1.06
2035400	0.55	99.00	1.30	1340	1.00
2035450	0.34	167.00	0.60	350	1.00
2036500	22.10	14.80	9.40	300	1.01
2037500	6758.00	5.51	320.60	1500	1.06
2037800	18.10	17.50	8.00	370	1.00
2038000	32.80	13.20	12.10	270	1.80
2038500	54.00	13.20	16.50	240	1.50
2038800	5.79	55.30	2.60	780	1.75
2038850	8.53	58.80	5.20	700	1.00
2038900	3.64	59.50	2.80	400	1.00
2039000	69.70	12.50	10.70	490	1.00
2039500	303.00	9.22	37.40	490	1.00
2040000	726.00	3.87	84.30	460	1.00
2040500	73.00	7.70	24.10	390	1.01
2040600	0.35	142.00	0.80	280	2.37
2041000	158.00	7.50	21.50	320	1.00
2041500	1335.00	2.66	120.00	400	1.00
2041650	1344.00	2.60	123.80	170	1.00
2042200	0.70	66.60	1.20	120	1.00
2042250	0.71	36.40	1.40	100	1.00
2042300	1.35	83.30	1.60	260	1.00
2042400	2.41	30.00	2.60	240	1.00
2042500	248.00	4.24	45.50	170	3.06
2042700	2.84	22.90	3.00	100	1.00
2042710	0.28	100.00	0.80	100	1.00
2042780	2.47	22.20	1.80	80	1.00
2043500	23.00	6.25	6.50	60	9.60
2044000	38.70	20.30	9.20	500	1.40
2044200	0.34	103.00	0.90	240	1.00
2044400	1.61	69.20	1.70	410	1.00
2044500	309.00	7.32	37.30	420	1.10
2045500	579.00	5.30	70.40	370	1.70
2046000	112.00	7.69	22.40	250	1.50
2046200	2.29	28.90	2.50	230	3.10
2046400	3.02	13.20	3.30	140	1.00
2046500	5.35	10.70	3.80	100	2.50
2046800	1.25	52.30	1.20	110	1.55
2046900	1.99	24.30	2.40	100	1.31
2047000	1421.00	2.92	105.00	220	1.00
2047500	294.00	2.23	41.90	130	2.80
2048000	456.00	1.90	56.00	110	5.20
2048400	27.40	5.00	8.10	96	3.57
2049500	617.00	1.62	64.70	100	8.00
2049700	8.55	12.50	4.90	50	1.00
2050050	2.76	26.50	2.20	60	1.00

Table 3.--Basin characteristics at gaging stations.

Station	FOREST	PRECIPITATION	I24,2	SNOWFALL	JANUARY MINIMUM
2034200	85	40.30	3.45	14.90	27.00
2034250	84	39.50	3.44	15.80	26.50
2034300	73	41.50	3.43	14.50	27.60
2034500	76	40.60	3.42	15.30	26.60
2035000	74	42.70	3.35	19.20	26.40
2035400	93	41.50	3.42	13.20	27.00
2035450	81	42.00	3.55	13.00	26.60
2036500	86	41.70	3.60	13.50	25.80
2037500	70	43.10	3.64	12.20	27.60
2037800	98	43.40	3.56	12.30	27.70
2038000	95	43.50	3.60	12.50	27.70
2038500	90	43.60	3.59	12.20	27.80
2038800	47	42.80	3.32	15.00	27.60
2038850	99	41.50	3.42	15.30	26.80
2038900	68	44.00	3.47	14.00	27.70
2039000	74	42.20	3.25	13.20	28.50
2039500	75	42.10	3.00	13.90	28.10
2040000	75	42.70	3.24	13.80	27.80
2040500	50	42.50	3.60	13.50	28.00
2040600	19	42.00	3.42	13.80	26.90
2041000	75	43.20	3.63	12.90	28.40
2041500	77	42.80	3.37	13.30	28.10
2041650	64	46.30	3.44	10.70	29.90
2042200	43	45.70	3.50	10.00	29.40
2042250	70	43.00	3.85	8.70	30.60
2042300	1	43.50	3.54	12.10	28.20
2042400	1	43.50	3.52	12.10	28.30
2042500	63	44.40	3.63	11.50	28.00
2042700	86	45.60	3.49	10.00	29.50
2042710	95	45.60	3.50	10.00	29.50
2042780	92	46.50	3.43	3.50	29.90
2043500	73	50.90	3.85	9.50	30.50
2044000	86	43.20	3.85	12.20	28.20
2044200	85	44.00	3.70	11.80	28.60
2044400	47	44.20	3.81	12.10	30.10
2044500	69	43.90	3.74	11.80	29.30
2045500	75	44.80	3.59	11.30	29.70
2046000	82	45.70	3.51	11.90	30.40
2046200	59	45.30	3.55	11.60	30.40
2046400	82	48.40	3.27	10.30	30.50
2046500	72	49.50	3.15	10.40	30.40
2046800	62	47.00	3.28	9.60	30.10
2046900	62	47.70	3.20	9.70	30.20
2047000	79	46.40	3.42	10.90	30.00
2047500	78	46.60	3.19	9.20	30.50
2048000	81	46.60	3.25	8.90	30.70
2048400	95	49.00	3.27	9.50	30.50
2049500	80	49.80	3.62	9.50	30.00
2049700	70	50.00	3.50	10.00	30.30
2050050	70	50.50	3.65	9.50	30.50

Table 3.--Basin characteristics at gaging stations.

Station	AREA	SLOPE	LENGTH	ELEVATION	STORAGE
2050400	1.19	59.10	1.40	590	1.89
2050500	9.20	33.90	4.10	550	1.00
2051000	55.60	21.20	10.70	470	1.00
2051400	0.87	50.00	1.60	280	1.00
2051500	552.00	4.17	62.40	420	1.14
2051600	30.70	15.80	10.00	350	1.00
2051650	1.41	54.20	1.60	320	1.00
2051700	6.16	39.80	3.80	290	1.00
2052000	747.00	3.46	82.90	400	1.24
2052500	65.20	8.80	18.90	300	1.18
2053000	96.00	7.66	29.70	250	1.20
2053800	110.00	82.10	12.20	2300	1.00
2054500	257.00	43.00	22.80	1840	1.00
2055000	395.00	17.40	45.30	1680	1.03
2055100	11.70	92.90	4.20	1470	1.00
2056000	512.00	15.40	50.60	1550	1.04
2057000	208.00	10.90	57.50	1360	1.00
2057500	1020.00	10.10	92.80	1330	1.11
2057700	0.64	207.00	2.00	1230	1.00
2058000	60.00	17.40	19.20	1100	1.00
2058400	350.00	9.47	66.20	1100	1.05
2058500	394.00	9.47	70.40	1050	1.05
2059450	7.56	105.00	5.80	1460	1.00
2059500	188.00	19.00	30.50	1140	1.02
2060500	1789.00	8.31	119.00	1170	1.04
2061000	116.00	25.20	17.00	870	1.10
2061150	1.65	27.30	2.50	950	1.00
2061300	4.77	66.10	4.00	975	1.00
2061500	320.00	14.20	32.00	1010	1.12
2062000	372.00	11.70	35.50	1000	1.15
2062500	2415.00	6.40	150.00	1080	1.06
2063500	52.20	21.80	12.00	600	1.50
2063600	0.59	349.00	1.20	1030	1.00
2063700	0.16	800.00	0.60	980	1.00
2064000	173.00	12.60	22.20	700	1.26
2065100	1.68	86.70	2.00	520	1.40
2065200	2691.00	6.20	156.70	1050	8.00
2065300	2.08	119.00	1.70	700	1.00
2065500	98.00	11.40	20.40	600	1.19
2066000	2977.00	5.82	179.00	990	1.11
2066500	135.00	6.82	17.60	490	3.44
2066600	8.84	37.20	4.00	440	1.00
2067000	3230.00	5.56	186.00	940	1.24
2067810	0.49	464.00	0.90	520	1.00
2069600	3.10	219.00	3.60	1620	1.00
2069700	84.60	38.80	21.40	1440	1.00
2070000	108.00	19.30	25.50	1100	1.00
2071800	12.20	67.10	5.70	1370	1.00
2072000	216.00	26.20	38.80	1400	2.60
2072500	259.00	20.30	44.80	1450	1.54

Table 3.--Basin characteristics at gaging stations.

Station	FOREST	PRECIPITATION	I24,2	SNOWFALL	JANUARY MINIMUM
2050400	61	42.70	3.43	12.20	27.80
2050500	53	42.90	3.45	12.00	27.80
2051000	80	43.40	3.49	11.80	28.00
2051400	55	44.40	3.27	9.60	29.30
2051500	72	44.70	3.35	10.50	28.40
2051600	75	44.40	3.40	10.30	29.50
2051650	81	44.30	3.32	10.00	29.90
2051700	82	44.30	3.35	9.90	29.80
2052000	76	44.70	3.40	10.30	28.80
2052500	66	44.80	3.40	8.50	29.70
2053000	70	45.10	3.90	8.80	29.90
2053800	25	42.80	2.97	17.40	25.80
2054500	76	42.20	3.00	17.00	25.60
2055000	74	42.20	3.13	17.10	26.30
2055100	26	42.00	3.36	18.10	27.30
2056000	70	42.30	3.23	17.20	26.70
2057000	66	43.40	3.51	14.50	28.00
2057500	69	42.90	3.45	16.00	27.60
2057700	54	43.20	3.46	13.70	27.80
2058000	70	43.30	3.77	12.40	28.00
2058400	55	42.60	3.96	12.60	28.90
2058500	55	43.40	3.67	12.70	27.80
2059450	65	44.50	3.80	17.40	28.00
2059500	63	44.00	4.02	16.30	28.30
2060500	66	43.00	3.65	15.00	27.90
2061000	69	43.80	4.15	17.20	27.50
2061150	36	40.70	3.55	13.80	29.60
2061300	50	44.00	4.35	15.20	28.20
2061500	60	43.00	4.09	16.00	28.10
2062000	60	40.70	3.55	13.80	29.60
2062500	57	42.70	3.67	15.00	28.20
2063500	65	40.10	3.23	13.90	28.40
2063600	86	40.40	3.26	14.50	28.90
2063700	69	40.50	3.26	14.50	28.90
2064000	67	40.90	3.24	14.00	28.70
2065100	70	41.50	3.28	12.40	29.50
2065200	60	42.10	3.27	12.00	29.20
2065300	83	41.50	3.27	14.00	28.20
2065500	75	41.40	3.28	13.50	28.10
2066000	60	42.50	3.59	14.60	28.30
2066500	76	42.30	3.33	12.40	27.80
2066600	50	45.60	3.15	11.00	29.40
2067000	59	42.50	3.57	14.40	28.30
2067810	70	48.00	4.30	18.00	27.00
2069600	59	50.50	3.63	9.90	29.30
2069700	40	50.50	3.42	9.30	29.50
2070000	82	48.30	3.52	9.80	28.60
2071800	30	44.60	3.35	12.60	26.50
2072000	80	44.80	3.50	11.40	26.40
2072500	85	46.30	3.60	12.60	27.10

Table 3.--Basin characteristics at gaging stations.

Station	AREA	SLOPE	LENGTH	ELEVATION	STORAGE
2073000	380.00	14.90	58.40	1290	1.01
2074500	112.00	17.40	22.20	820	1.06
2075000	2050.00	10.40	144.00	1030	1.37
2075350	0.28	109.40	0.85	460	1.00
2075450	2.30	64.70	2.30	465	1.00
2075500	2550.00	7.83	171.00	1000	1.25
2075900	8.70	27.30	4.30	500	3.17
2076000	2730.00	6.98	184.00	900	1.29
2076200	4.06	51.90	3.60	850	1.80
2076500	9.24	11.50	6.90	860	1.00
2076600	1.93	105.00	2.90	880	2.10
2076700	3.44	84.10	3.00	600	1.00
2077000	547.00	5.59	62.00	620	1.24
2077500	289.00	3.05	58.90	550	1.19
2078000	413.00	3.05	67.80	530	1.11
2079000	7320.00	4.86	207.00	850	1.46
2079500	7780.00	4.42	227.60	800	3.14
2079640	53.40	12.50	15.40	400	1.00
2079660	3.60	64.30	2.80	380	1.00
2079720	0.39	100.00	1.00	300	1.00
3162700	2.23	238.00	2.80	2950	1.00
3162800	5.32	536.00	3.90	3470	1.90
3162810	0.39	1228.00	1.20	2970	1.00
3164000	1131.00	9.52	111.00	3280	1.02
3165000	39.00	25.30	11.00	2560	1.03
3165200	1.05	169.00	1.60	2630	1.00
3165500	1340.00	8.91	131.00	3170	1.05
3165700	11.30	94.20	6.90	3050	1.40
3165800	3.57	100.00	3.00	2530	1.00
3167000	247.00	11.40	41.00	2500	1.07
3167300	0.62	534.00	1.00	2860	1.00
3167500	278.00	15.20	46.30	2570	1.01
3167700	4.13	93.90	2.80	2600	1.00
3168000	2202.00	9.56	149.00	2910	1.04
3168500	60.90	47.70	14.20	2350	1.54
3168600	0.61	83.30	1.60	2110	1.00
3168750	4.77	54.30	3.10	2110	1.00
3169200	0.96	136.00	1.50	2550	1.00
3169350	1.40	140.90	1.50	2640	1.00
3169500	239.00	9.26	57.70	2500	1.02
3170000	300.00	9.73	65.10	2470	1.02
3171000	2748.00	3.43	175.40	2800	1.20
3171150	1.23	109.40	2.20	2130	2.00
3171500	2941.00	8.03	199.00	2740	1.22
3171600	24.00	176.00	11.90	3320	1.40
3171800	0.38	445.00	1.50	2570	1.00
3173000	305.00	20.10	53.70	2590	1.03
3175500	223.00	35.90	45.00	2810	1.02
3176500	3768.00	6.72	225.00	2700	1.18
3177700	39.80	31.60	15.20	2800	1.00

Table 3.--Basin characteristics at gaging stations.

Station	FOREST	PRECIPITATION	I24,2	SNOWFALL	JANUARY MINIMUM
2073000	79	46.00	3.58	12.10	27.10
2074500	52	44.20	3.57	10.70	28.10
2075000	66	46.60	3.65	10.40	28.70
2075350	17	43.70	3.12	9.50	30.90
2075450	58	43.80	3.20	9.60	31.00
2075500	65	43.70	0.32	10.10	30.80
2075900	60	44.00	3.10	9.50	32.00
2076000	64	46.00	3.58	10.20	29.20
2076200	65	45.00	3.45	11.60	28.90
2076500	55	42.20	3.99	12.40	30.00
2076600	46	42.40	4.05	12.40	29.60
2076700	93	42.00	3.96	12.00	30.40
2077000	62	43.30	3.82	11.50	29.70
2077500	68	44.50	3.32	9.50	31.30
2078000	69	44.70	3.36	9.60	31.20
2079000	62	44.10	3.57	12.10	29.00
2079500	65	45.50	3.14	8.70	27.80
2079640	70	45.40	3.15	9.50	28.70
2079660	76	46.00	3.15	9.60	29.00
2079720	65	45.60	3.10	8.40	28.40
3162700	35	43.80	3.43	18.60	23.00
3162800	52	43.00	3.36	18.90	22.60
3162810	30	43.30	3.33	18.40	23.40
3164000	55	46.90	3.33	21.20	24.40
3165000	40	45.00	3.08	18.30	24.20
3165200	18	43.20	3.06	16.50	23.90
3165500	55	46.20	3.16	20.60	24.40
3165700	76	39.80	2.68	21.50	22.60
3165800	40	39.00	2.80	20.00	23.60
3167000	43	38.60	2.68	20.80	25.10
3167300	45	43.50	3.05	22.50	25.50
3167500	69	44.60	3.34	22.70	25.80
3167700	30	43.00	3.05	20.80	24.90
3168000	54	44.30	3.05	20.60	24.70
3168500	72	37.60	2.54	15.60	25.50
3168600	75	38.00	2.48	14.00	25.00
3168750	5	37.80	2.47	14.40	24.60
3169200	43	45.70	4.25	15.70	26.30
3169350	29	43.10	3.25	16.80	25.40
3169500	50	41.30	2.77	18.40	24.90
3170000	46	43.60	3.45	16.90	25.60
3171000	53	39.40	2.50	16.30	23.80
3171150	13	40.80	2.62	16.20	23.90
3171500	51	43.50	2.88	18.80	24.70
3171600	88	37.50	2.63	15.80	24.00
3171800	90	37.20	2.60	19.60	26.50
3173000	64	37.40	2.56	17.90	25.80
3175500	71	40.60	2.57	26.20	25.40
3176500	53	42.30	2.80	19.50	24.80
3177700	90	43.20	2.50	31.10	25.00

Table 3.--Basin characteristics at gaging stations.

Station	AREA	SLOPE	LENGTH	ELEVATION	STORAGE
3207400	19.80	119.00	6.30	1700	1.00
3207500	235.00	36.60	23.50	2040	1.00
3207800	297.00	26.50	31.80	2000	1.00
3208500	286.00	19.30	23.50	2120	1.04
3208700	18.50	50.00	9.50	2150	1.00
3208800	36.70	45.60	10.40	2120	1.00
3208850	61.20	40.60	11.50	2070	1.00
3208900	82.50	11.20	21.50	2020	1.00
3208950	66.50	42.50	17.00	2090	1.00
3209000	221.00	10.20	41.30	2000	1.93
3209200	526.00	15.10	27.30	2000	1.02
3471100	7.28	140.00	5.20	3150	1.00
3471200	31.10	61.20	5.30	3090	1.00
3471500	76.10	32.00	18.40	2870	1.07
3472500	56.00	56.90	17.30	2950	1.01
3473000	301.00	23.20	37.30	2930	1.02
3473500	7.39	46.20	3.60	2710	1.02
3473600	13.30	36.20	5.40	2990	1.00
3473800	8.33	154.00	5.40	2500	1.00
3474000	132.00	24.30	25.00	2480	1.12
3474500	155.00	21.50	29.40	2470	1.11
3474700	8.32	82.10	3.70	2230	1.00
3474800	7.90	68.20	4.40	2110	1.00
3475000	211.00	14.60	42.80	2390	1.17
3475600	3.38	65.90	2.20	2610	1.00
3475700	2.99	54.80	2.80	2120	1.00
3477500	13.70	40.40	7.70	2180	1.04
3478400	27.70	40.00	9.30	2140	1.02
3487800	25.50	39.10	14.70	2770	1.00
3487850	4.36	114.00	4.70	2510	1.90
3487900	7.64	324.00	2.80	2760	1.00
3488000	222.00	21.70	47.60	2730	1.01
3488500	402.00	17.70	72.80	2500	1.10
3489500	493.00	13.90	93.20	2480	1.13
3489700	0.59	364.00	1.00	2100	1.00
3489800	17.30	68.30	8.40	1500	1.00
3489850	17.60	62.70	8.90	1500	1.00
3489870	41.90	24.40	22.10	2110	1.00
3489900	79.60	16.70	51.90	2290	1.00
3490000	672.00	9.69	124.00	2370	1.10
3521500	139.00	23.00	37.50	2580	1.00
3523000	51.50	39.60	15.60	2400	1.00
3524000	528.00	14.90	86.90	2490	1.01
3524500	87.30	13.10	25.90	2520	1.05
3525000	41.40	178.00	13.80	2800	1.00
3525800	0.99	323.00	1.70	2250	1.00
3526000	106.00	16.10	44.70	2100	1.01
3527000	1126.00	9.36	148.00	2300	1.02
3529500	112.00	41.20	23.40	2480	1.07
3530000	40.00	156.00	14.60	2370	1.70

Table 3.--Basin characteristics at gaging stations.

Station	FOREST	PRECIPITATION	I24,2	SNOWFALL	JANUARY MINIMUM
3207400	95	40.50	2.78	20.50	29.20
3207500	92	41.60	2.71	21.80	27.60
3207800	90	43.50	2.60	22.20	26.60
3208500	97	42.60	2.82	19.20	28.70
3208700	95	47.60	2.84	19.60	28.00
3208800	95	47.70	2.82	19.50	28.00
3208850	95	47.70	2.83	19.70	28.00
3208900	95	46.50	2.82	20.10	28.00
3208950	95	46.00	2.84	19.60	28.00
3209000	92	46.90	2.82	19.30	27.60
3209200	90	45.00	2.72	20.60	27.60
3471100	84	41.50	2.60	19.30	21.50
3471200	70	41.50	2.70	19.50	22.00
3471500	83	42.00	2.83	18.50	22.30
3472500	89	45.70	2.77	15.90	24.00
3473000	76	43.20	2.03	17.70	22.60
3473500	49	39.00	2.69	23.00	23.00
3473600	39	39.50	2.65	21.80	22.40
3473800	95	40.50	2.48	19.60	22.50
3474000	64	40.00	2.50	20.00	22.40
3474500	60	40.50	2.49	19.60	22.30
3474700	22	43.00	2.50	17.50	22.00
3474800	25	43.50	2.55	17.00	23.00
3475000	51	41.40	2.52	18.80	22.80
3475600	6	44.40	2.72	16.20	25.00
3475700	14	46.00	2.62	13.00	27.70
3477500	11	45.60	2.58	13.00	28.50
3478400	14	45.60	2.58	12.60	28.60
3487800	96	42.60	2.65	20.50	22.80
3487850	63	43.00	2.65	21.00	22.80
3487900	76	42.60	2.65	19.80	22.80
3488000	63	43.40	2.58	20.60	24.60
3488500	65	44.80	2.41	14.70	28.30
3489500	66	44.10	2.51	18.10	26.60
3489700	57	50.40	2.48	12.00	28.50
3489800	70	45.90	2.52	12.30	29.50
3489850	70	45.90	2.52	12.30	29.50
3489870	30	45.00	2.50	13.50	29.50
3489900	25	46.00	2.50	13.50	29.50
3490000	64	44.40	2.50	16.70	27.50
3521500	34	44.80	2.65	25.10	26.60
3523000	40	43.50	2.48	16.50	27.70
3524000	42	43.90	2.65	21.40	27.50
3524500	81	47.60	2.92	17.50	28.20
3525000	93	47.70	2.82	18.50	28.70
3525800	50	44.50	2.55	14.90	29.40
3526000	35	45.50	2.52	14.20	29.60
3527000	50	45.30	2.67	17.50	28.60
3529500	84	48.60	2.66	18.00	27.60
3530000	63	48.70	2.65	16.80	28.00

Table 3.--Basin characteristics at gaging stations.

Station	AREA	SLOPE	LENGTH	ELEVATION	STORAGE
3530500	70.00	59.40	14.80	2500	1.00
3531000	290.00	21.50	45.90	2270	1.07
3531500	319.00	16.80	58.90	2290	1.06

Table 3.--Basin characteristics at gaging stations.

Station	FOREST	PRECIPITATION I24,2	SNOWFALL	JANUARY MINIMUM
3530500	95	50.30	2.70	17.00	26.60
3531000	67	49.10	2.77	17.10	27.40
3531500	64	49.40	2.73	17.00	27.30

TABLE 4

Table 4.--Maximum known peak discharges.

Station No.	Station Name	Drainage area (sq mi)	Period	Date	Discharge (cfs)	Discharge (cfsm)	Recurrence interval (years)
01484800	Guy Creek near Nassawadox, Va.	1.72	1964-76	July 10, 1970	60	35	15
01613900	Hogue Creek near Hayfield, Va.	15.0	1961-76	June 22, 1972	2,760	184	27
01615000	Opequon Creek near Berryville, Va.	57.4	1944-76	Nov. 13, 1970	10,600	185	75
01616000	Abrams Creek near Winchester, Va.	16.5	1950-60	Dec. 4, 1950	962	58	17
01620500	North River near Stokesville, Va.	17.2	1942-76	June 17, 1949	11,100	645	>100
01621000	Dry River at Rawley Springs, Va.	72.6	1942-75	October 1942	13,000	179	>100
01621200	War Branch near Hinton, Va.	9.45	1949-76	Aug. 15, 1949	2,500	265	55
01621400	Blacks Run at Harrisonburg, Va.	5.52	1949-61	Aug. 15, 1949	1,920	348	>100
01621450	Blacks Run trib nr Harrisonburg, Va.	0.72	1966-75	July 6, 1969	230	319	15
01622000	North River near Burketown, Va.	379	1852-1972	June 17, 1949	62,600	165	>100
01622100	North River trib at Mt. Crawford, Va.	1.55	1966-75	Oct. 5, 1972	146	94	11
01622300	Buffalo Br trib nr Augusta Springs, Va.	0.55	1967-76	Oct. 5, 1972	91	165	11
01622400	Buffalo Br trib nr Christian, Va.	0.49	1967-76	Mar. 19, 1975	122	249	17
01624000	Bell Creek near Staunton, Va.	9.6	1949-56	June 28, 1949	912	95	-
01624300	Middle River near Verona, Va.	178	1968-76	Mar. 19, 1975	7,440	42	-
01624800	Christians Cr near Fisherville, Va.	70.1	1968-76	Oct. 5, 1972	3,850	55	-
01625000	Middle River near Grottoes, Va.	375	1877-1976	Mar. 18, 1936	24,500	65	75
01626000	South River near Waynesboro, Va.	127	1924-76	Aug. 20, 1969	17,400	137	30

Table 4.--Maximum known peak discharges--Continued

Station No.	Station Name	Drainage area (sq mi)	Period	Date	Discharge (cfs)	Discharge (cfsm)	Recurrence interval (years)
01627300	South River trib nr Harriston, Va.	2.41	1966-75	Mar. 19, 1975	319	132	10
01627500	South River at Harriston, Va.	212	1924-76	Oct. 15, 1942	23,100	109	22
01628500	S.F. Shenandoah River nr Lynnwood, Va.	1084	1870-1976	Oct. 15, 1942	a80,000	74	55
01628600	Cub Run tributary at Montevideo, Va.	0.42	1966-75	Oct. 5, 1972	95	226	11
01629400	S.F. Shenandoah R trib nr Luray, Va.	0.54	1966-75	Oct. 5, 1972	164	304	23
01629500	S.F. Shenandoah R near Luray, Va.	1377	1870-1942	Oct. 16, 1942	100,000	73	45
01629945	Chub Run near Stanley, Va.	3.16	1959-76	Oct. 6, 1972	705	223	15
01631000	S.F. Shenandoah R at Front Royal, Va.	1642	1870-1976	Oct. 16, 1942	130,000	79	80
01632000	N.F. Shenandoah R at Cootes Store, Va.	210	1836-1976	Oct. 15, 1942	50,000	238	>100
01632900	Smith Creek near New Market, Va.	93.2	1960-76	Oct. 6, 1972	10,600	114	30
01632950	Crooked Run trib nr Conicville, Va.	0.31	1966-75	June 2, 1974	44	142	3
01632970	Crooked Run near Mt. Jackson, Va.	6.49	1972-76	July 25, 1975	1,600	247	-
01633000	N.F. Shenandoah R at Mt. Jackson, Va.	506	1836-1976	October 1942	80,000	158	>100
01633500	Stony Creek at Columbia Furnace, Va.	79.4	1942-76	October 1942	13,000	164	75
01633650	Pughs Run near Woodstock, Va.	3.66	1972-76	June 22, 1972	543	148	-
01633700	Pughs Run trib nr Columbia Furnace, Va.	0.56	1966-75	July 26, 1973	180	321	6
01634000	N.F. Shenandoah R nr Strasburg, Va.	768	1836-1976	Oct. 16, 1942	100,000	130	>100
01634500	Cedar Creek near Winchester, Va.	103	1936-76	Oct. 15, 1942	22,000	214	60

Table 4.--Maximum known peak discharges--Continued

Station No.	Station Name	Drainage area (sq mi)	Period	Date	Discharge (cfs)	Discharge (cfsm)	Recurrence interval (years)
01635200	N.F. Shenandoah R trib nr Waterlick, Va.	0.48	1966-75	June 21, 1972	63	131	25
01635500	Passage Creek near Buckton, Va.	87.8	1932-76	Oct. 15, 1942	21,000	239	80
01636210	Happy Creek at Front Royal, Va.	14.0	1948-76	Oct. 5, 1948	2,490	178	35
01638480	Catoctin Creek at Taylorstown, Va.	89.6	1972-76	June 22, 1972	23,800	266	-
01643700	Goose Creek near Middleburg, Va.	123	1966-76	June 22, 1972	19,200	156	-
01644000	Goose Creek near Leesburg, Va.	332	1889-1976	June 22, 1972	78,100	235	>100
01644100	S.F. Sycolin Creek nr Leesburg, Va.	2.05	1966-76	June 21, 1972	1,130	551	20
01644291	Stave Run near Reston, Va.	0.08	1969-76	Sept.25, 1975	170	2,125	-
01644295	Smilax Branch at Reston, Va.	0.32	1967-76	June 21, 1972	230	719	-
01645700	Difficult Run near Fairfax, Va.	4.29	1950-68	Aug. 24, 1967	1,180	275	20
01646000	Difficult Run near Great Falls, Va.	57.9	1935-76	June 22, 1972	32,200	556	>100
01646200	Scott Run near McLean, Va.	4.69	1961-73	Sept. 14, 1966	3,560	759	-
01652500	Fourmile Run at Alexandria, Va.	13.8	1951-76	June 22, 1969	14,600	1,058	20
01653000	Cameron Run at Alexandria, Va.	33.7	1953-76	June 22, 1972	19,900	591	40
01654000	Accotink Creek near Annandale, Va.	23.5	1947-76	June 22, 1972	12,000	511	45
01654500	*Long Branch at Annandale, Va.*	*3.71*	*1947-69*	*Aug. 24, 1967*	3,300	889	50
01655350	*Pohick Creek near Springfield, Va.*	*15.0*	*1961-70*	*Aug. 25, 1967*	3,510	234	50
01655500	Cedar Run near Warrenton, Va.	12.3	1942-76	June 21, 1972	7,840	637	50

Table 4.--Maximum known peak discharges--*Continued*

Station No.	Station Name	Drainage area (sq mi)	Period	Date	Discharge (cfs)	Discharge (cfsm)	Recurrence interval (years)
01656000	Cedar Run near Catlett, Va.	93.4	1942-76	June 22, 1972	38,600	413	>100
01656200	Broad Run near Warrenton, Va.	2.94	1950-76	June 21, 1972	276	94	75
01656500	Broad Run at Buckland, Va.	50.5	1950-76	June 21, 1972	16,800	333	75
01656600	Broad Run tributary at Buckland, Va.	0.79	1966-75	June 21, 1972	575	728	25
01656700	Occoquan River near Manassas, Va.	343	1968-76	June 22, 1972	56,400	164	-
01656725	Bull Run near Catharpin, Va.	25.8	1969-76	June 22, 1972	39,400	1,527	-
01657000	Bull Run near Manassas, Va.	148	1914-76	June 22, 1972	76,100	514	>100
01657500	Occoquan River near Occoquan, Va.	570	1914-71	Oct. 16, 1942	37,000	65	60
01658500	S.F. Quantico Cr nr Independent Hill, Va.	7.64	1952-76	June 21, 1972	3,940	516	65
01660400	Aquia Creek near Garrisonville, Va.	34.9	1972-76	June 22, 1972	11,600	332	-
01661600	Great Wicomico R nr Horse Head, Va.	6.98	1969-76	Aug. 20, 1969	1,250	179	-
01661800	Bush Mill Stream nr Heathsville, Va.	6.82	1964-76	Aug. 20, 1969	a450	66	27
01662000	Rappahannock River nr Warrenton, Va.	195	1828-1976	Oct. 15, 1942	32,000	164	>100
01662300	Thornton River trib nr Thornton Gap, Va.	1.38	1967-76	June 21, 1972	140	101	9
01662500	Rush River at Washington, Va.	14.7	1954-76	Aug. 18, 1955	2,500	170	60
01662800	Battle Run near Laurel Mills, Va.	27.6	1943-76	June 22, 1972	2,850	103	80
01663000	Thornton River nr Laurel Mills, Va.	142	1942-76	Oct. 15, 1942	40,000	282	60
01663500	Hazel River at Rixeyville, Va.	287	1937-76	Oct. 15, 1942	60,000	209	90

Table 4.--Maximum known peak discharges--Continued

Station No.	Station Name	Drainage area (sq mi)	Period	Date	Discharge (cfs)	Discharge (cfsm)	Recurrence interval (years)
01664000	Rappahannock River at Remington, Va.	620	1828-1976	Oct. 16, 1942	90,000	145	>100
01664500	Rappahannock River at Kellys Ford, Va.	641	1828-1942	Oct. 16, 1942	90,000	140	-
01664800	Harpers Run nr Morrisville, Va.	2.28	1966-75	June 21, 1972	1,900	833	50
01665000	Mountain Run near Culpeper, Va.	15.9	1950-76	Aug. 18, 1955	5,440	342	35
01665050	Pony Mountain Branch nr Culpeper, Va.	0.30	1958-76	Aug. 16, 1970	196	653	-
01665200	Rock Run trib near Goldvein, Va.	1.00	1966-75	June 21, 1972	536	536	25
01665500	Rapidan River nr Ruckersville, Va.	114	1901-76	Oct. 15, 1942	30,700	269	55
01666500	Robinson River nr Locust Dale, Va.	179	1942-76	Oct. 15, 1942	44,000	246	100
01667000	Rapidan River at Rapidan, Va.	446	1901-76	Oct. 16, 1942	57,000	128	-
01667500	Rapidan River near Culpeper, Va.	472	1901-76	Oct. 16, 1942	58,100	123	55
01667600	Cedar Run trib near Culpeper, Va.	0.58	1966-75	June 21, 1972	125	216	10
01668000	Rappahannock R nr Fredericksburg, Va.	1596	1828-1976	Oct. 16, 1942	140,000	88	>100
01668200	Gingoteague Run nr Port Royal, Va.	2.82	1966-74	June 22, 1972	388	138	-
01668300	Farmer Hall Creek nr Champlain, Va.	2.1	1966-76	Aug. 20, 1969	510	243	10
01668500	Cat Point Creek near Montross, Va.	45.6	1935-76	Aug. 20, 1969	6,820	150	100
01668800	Hoskins Creek nr Tappahannock, Va.	15.5	1965-76	Aug. 20, 1969	1,380	89	55
01669000	Piscataway Creek nr Tappahannock, Va.	28.0	1951-76	Aug. 20, 1969	2,380	85	40
01669300	Yorkers Swamp nr Center Cross, Va.	1.37	1966-75	June 22, 1972	142	104	15

Table 4.--Maximum known peak discharges--Continued

Station No.	Station Name	Drainage area (sq mi)	Period	Date	Discharge (cfs)	Discharge (cfsm)	Recurrence interval (years)
01669500	Dragon Swamp near Church View, Va.	84.9	1944-76	June 4, 1963	3,990	47	40
01669800	My Ladys Swamp near Saluda, Va.	4.81	1970-76	Apr. 8, 1973	182	38	-
01670000	Beaverdam Swamp near Ark, Va.	6.63	1950-76	Sept.12, 1960	570	86	28
01670100	Mountain Run trib nr Gordonsville, Va.	0.50	1966-73	June 21, 1972	147	294	-
01671000	North Anna River nr Doswell, Va.	441	1926-76	Aug. 21, 1969	24,800	56	60
01671100	Little River near Doswell, Va.	107	1962-76	Aug. 21, 1969	12,000	112	22
01671500	Bunch Creek nr Boswells Tavern, Va.	4.37	1949-76	Aug. 20, 1969	2,750	629	90
01671615	Foster Creek near Ferncliff, Va.	0.61	1961-76	Aug. 20, 1969	1,000	1,639	50
01671650	Waldrop Creek near Louisa, Va.	2.85	1969-76	Aug. 20, 1969	2,500	877	>100
01671750	Harris Creek nr Trevilians, Va.	3.31	1969-76	Aug. 20, 1969	3,300	997	>100
01672400	South Anna River trib nr Ashland, Va.	0.33	1966-76	June 21, 1972	414	1,255	15
01672500	South Anna River near Ashland, Va.	394	1927-76	Aug. 23, 1969	17,100	43	50
01672900	Pamunkey River trib nr Hanover, Va.	0.71	1966-73	Aug. 20, 1969	175	246	-
01673000	Pamunkey River near Hanover, Va.	1081	1942-76	Aug. 23, 1969	40,300	37	80
01673500	Totopotomoy Creek nr Atlee, Va.	5.89	1945-76	Aug. 13, 1955	748	127	75
01673800	Po River near Spotsylvania, Va.	77.4	1963-76	June 22, 1972	10,900	141	45
01674000	Mattaponi River nr Bowling Green, Va.	257	1928-76	August 1928	15,000	58	40
01674100	Motto River trib near Cedon, Va.	1.64	1967-76	Aug. 20, 1969	690	421	45

Table 4.--Maximum known peak discharges--Continued

Station No.	Station Name	Drainage area (sq mi)	Period	Date	Discharge (cfs)	Discharge (cfsm)	Recurrence interval (years)
01674200	Reedy Creek near Dawn, Va.	16.8	1951-76	Aug. 20, 1969	2,500	149	>100
01674500	Mattaponi River nr Beulahville, Va.	601	1889-1976	June 25, 1972	16,900	28	50
02009500	Cattail Run near Bolar, Va.	0.74	1966-75	Aug. 5, 1967	50	68	6
02011500	Back Creek near Mountain Grove, Va.	134	1951-76	Mar. 7, 1967	12,700	95	35
02012500	Jackson River at Falling Spring, Va.	411	1913-76	March 1913	a50,000	122	>100
02012950	Sweet Spgs Cr trib at Swt Chalybeate, Va.	0.66	1966-75	July 5, 1974	375	568	15
02013000	Dunlap Creek near Covington, Va.	164	1929-76	June 21, 1972	13,400	82	35
02014000	Potts Creek near Covington, Va.	153	1929-76	June 21, 1972	12,400	81	55
02014500	Smith Creek near Clifton Forge, Va.	12.4	1947-56	Dec. 7, 1950	1,200	97	16
02015600	Cowpasture River nr Head Waters, Va.	11.3	1949-76	June 17, 1949	5,650	500	>100
02015700	Bullpasture River at Williamsville, Va.	110	1961-76	Dec. 26, 1973	7,230	66	20
02015900	Jerry Branch nr Clifton Forge, Va.	0.55	1967-76	Aug. 20, 1969	270	491	15
02016000	Cowpasture River nr Clifton Forge, Va.	461	1913-76	March 1913	a45,000	98	>100
02016500	James River at Lick Run, Va.	1373	1877-1976	November 1877	a120,000	87	>100
02017000	Meadow Creek at New Castle, Va.	13.8	1929-57	Aug. 16, 1940	700	51	-
02017300	Craig Creek at New Castle, Va.	112	1925-76	June 21, 1972	16,500	147	>100
02017400	*Johns Creek trib nr New Castle, Va.*	1.57	1967-76	June 21, 1972	354	225	15
02017500	Johns Creek at New Castle, Va.	104	1927-76	Jan. 23, 1935	8,000	77	40

Table 4.--Maximum known peak discharges--Continued

Station No.	Station Name	Drainage area (sq mi)	Period	Date	Discharge (cfs)	Discharge (cfsm)	Recurrence interval (years)
02017700	Craig Creek trib nr New Castle, Va.	2.05	1968-76	May 28, 1973	550	268	9
02018000	Craig Creek at Parr, Va.	329	1925-76	June 21, 1972	20,200	61	45
02018500	Catawba Creek near Catawba, Va.	34.3	1941-76	June 21, 1972	7,740	226	>100
02018700	Campbell Branch near Fincastle, Va.	1.51	1968-75	May 28, 1973	190	126	-
02018800	North Fork near Fincastle, Va.	4.17	1968-76	May 28, 1973	840	201	-
02019000	Catawba Creek nr Fincastle, Va.	104	1928-37	August 1928	7,700	74	10
02019400	Mill Creek near Buchanan, Va.	29.6	1928-74	August 1928	18,000	608	>100
02019500	James River at Buchanan, Va.	2075	1870-1976	November 1877	a142,000	68	>100
02020100	Renick Run near Buchanan, Va.	2.06	1967-76	Aug. 20, 1969	1,210	587	20
02020200	Calfpasture River nr West Augusta, Va.	12.8	1949-76	June 17, 1949	4,800	375	50
02020500	Calfpasture R abv Mill Cr at Goshen, Va.	144	1926-76	Oct. 6, 1972	20,900	145	40
02021000	Calfpasture River at Goshen, Va.	190	1925-38	Mar. 17, 1936	20,000	105	20
02021100	Bratton Creek trib near Goshen, Va.	1.62	1966-76	Aug. 20, 1969	670	414	-
02021500	Maury River at Rockbridge Baths, Va.	329	1929-76	Mar. 17, 1936	33,000	100	65
02021700	Cedar Grove Br nr Rockbridge Baths, Va.	12.3	1967-76	Aug. 20, 1969	7,300	593	>100
02022500	Kerrs Creek near Lexington, Va.	35.0	1927-76	Sept.10, 1950	23,000	657	>100
02023000	Maury River near Lexington, Va.	487	1877-1976	Aug. 20, 1969	52,000	107	>100
02023300	South River nr Steeles Tavern, Va.	15.7	1936-76	Aug. 20, 1969	4,700	299	90

Table 4.--Maximum known peak discharges--Continued

Station No.	Station Name	Drainage area (sq mi)	Period	Date	Discharge (cfs)	Discharge (cfsm)	Recurrence interval (years)
02023500	South River near Riverside, Va.	111	1936-76	Aug. 20, 1969	35,000	315	60
02024000	Maury River near Buena Vista, Va.	646	1877-1976	Aug. 20, 1969	105,000	163	>100
02024500	Maury River near Glasgow, Va.	831	1896-1905	Dec. 29, 1901	42,000	51	13
02025000	Pedlar River nr Pedlar Mills, Va.	91.0	1943-76	Aug. 20, 1969	32,000	352	95
02025500	James River at Holcombs Rock, Va.	3259	1870-1976	Aug. 20, 1969	150,000	46	>100
02026000	James River at Bent Creek, Va.	3683	1870-1976	June 21, 1972	176,000	48	>100
02026500	Tye River at Roseland, Va.	68.0	1927-1938	Sept.16, 1934	6,000	88	10
02027000	Tye River near Lovingston, Va.	92.8	1928-76	Aug. 20, 1969	80,000	862	>100
02027500	Piney River at Piney River, Va.	47.6	1949-76	Aug. 20, 1969	38,000	798	>100
02027700	Buffalo River trib nr Amherst, Va.	0.46	1966-76	June 21, 1972	187	407	17
02027800	Buffalo River nr Tye River, Va.	147	1940-76	Aug. 20, 1969	45,000	306	100
02028000	Tye River near Norwood, Va.	360	1940-76	Aug. 20, 1969	200,000	556	>100
02028500	Rockfish River nr Greenfield, Va.	94.6	1942-76	Aug. 20, 1969	70,000	740	>100
02028700	Cove Creek near Covesville, Va.	4.0	1944-76	Aug. 20, 1969	3,000	750	75
02028750	Cove Creek at Faber, Va.	19.7	1967-69	Aug. 20, 1969	28,000	1,421	-
02028800	Ballinger Creek at Esmont, Va.	5.42	1967-76	Aug. 20, 1969	4,800	886	-
02028900	Miller Creek nr Scottsville, Va.	6.60	1967-76	Aug. 20, 1969	6,300	955	-
02029000	James River at Scottsville, Va.	4584	1870-1976	June 22, 1972	301,000	66	>100

Table 4.--Maximum known peak discharges--Continued

Station No.	Station Name	Drainage area (sq mi)	Period	Date	Discharge (cfs)	Discharge (cfsm)	Recurrence interval (years)
02029200	N.F. Hardware River at Red Hill, Va.	11.0	1950-74	Aug. 20, 1969	7,300	664	50
02029400	S.B. of N.F. Hardware R nr N Garden, Va.	6.59	1949-76	Aug. 20, 1969	6,200	941	45
02029410	Sowell Branch nr Charlottesville, Va.	1.55	1967-76	Aug. 20, 1969	1,500	968	-
02029430	Harris Creek nr Keene, Va.	1.71	1967-76	Aug. 20, 1969	2,200	1,287	-
02029450	Thomas Creek near Keene, Va.	0.28	1966-75	Aug. 20, 1969	440	1,571	18
02029500	Hardware River nr Scottsville, Va.	104	1927-38	Apr. 26, 1937	6,440	62	8
02030000	Hardware R bl Briery Rn, nr Scottsvle, Va.	116	1927-76	Aug. 20, 1969	52,000	448	>100
02030100	Frisby Branch near Buckingham, Va.	4.35	1967-73	June 21, 1972	2,110	485	-
02030500	Slate River near Arvonia, Va.	226	1926-76	June 22, 1972	42,200	187	>100
02030800	Stockton Creek near Afton, Va.	2.80	1967-76	June 21, 1972	678	242	15
02031000	Mechum River near Ivy, Va.	97	1942-51	Oct. 15, 1942	20,000	206	30
02031500	N.F. Moormans R nr Whitehall, Va.	11.4	1942-75	Oct. 15, 1942	7,620	668	>100
02032300	Muddy Run near Stanardsville, Va.	3.36	1967-76	June 21, 1972	3,160	940	-
02032500	S.F. Rivanna River nr Earlysville, Va.	369	1926-66	October 1942	36,000	98	35
02032530	Parker Branch nr Stanardsville, Va.	3.24	1967-76	Oct. 5, 1972	2,000	617	20
02032540	Haneytown Creek nr Stanardsville, Va.	4.45	1967-76	Mar. 19, 1975	1,220	274	-
02032550	Lynch River at Nortonsville, Va.	13.6	1967-76	June 21, 1972	18,000	1,324	-
02032680	N.F. Rivanna River nr Profitt, Va.	176	1970-76	June 21, 1972	31,800	181	-

Table 4.--Maximum known peak discharges--Continued

Station No.	Station Name	Drainage area (sq mi)	Period	Date	Discharge (cfs)	Discharge (cfsm)	Recurrence interval (years)
02032700	Schenks Br at Charlottesville, Va.	1.34	1950-76	May 1, 1962	900	672	24
02033300	Moores Creek nr Charlottesville, Va.	3.52	1967-76	Aug. 20, 1969	2,000	568	30
02033500	Rivanna River nr Charlottesville, Va.	507	1925-42	October 1942	63,000	124	-
02033700	Henderson Creek nr Shadwell, Va.	1.76	1966-75	Aug. 20, 1969	2,000	1,136	-
02034000	Rivanna River at Palmyra, Va.	664	1926-76	Aug. 20, 1969	86,000	130	35
02034050	Hunters Branch nr Palmyra, Va.	1.63	1967-76	Aug. 20, 1969	1,500	920	40
02034250	Whispering Creek at Sprouses Corner, Va.	0.43	1962-76	July 7, 1969	248	577	25
02034300	Little Willis River at Curdsville, Va.	7.07	1951-60	Aug. 18, 1955	563	80	30
02035000	James River at Cartersville, Va.	6257	1877-1976	June 22, 1972	362,000	58	>100
02035400	Big Lickinghole C trib nr Ferncliff, Va.	0.55	1962-76	Aug. 20, 1969	600	1,091	-
02035450	Rocketts Creek trib nr Gum Springs, Va.	0.34	1966-75	Aug. 20, 1969	190	559	40
02036500	Fine Creek at Fine Creek Mills, Va.	22.1	1945-76	Oct. 6, 1972	4,180	189	35
02037500	James River near Richmond, Va.	6758	1899-1976	June 23, 1972	313,000	46	>100
02037800	Falling Creek near Midlothian, Va.	18.1	1951-76	Sept.12, 1960	1,450	80	15
02038000	Falling Creek near Chesterfield, Va.	32.8	1951-76	Sept.12, 1960	2,510	77	25
02038500	Falling Creek near Drewry Bluff, Va.	54.0	1942-63	July 18, 1945	7,270	135	45
02038800	Appomattox River near Appomattox, Va.	5.79	1955-76	June 21, 1972	3,870	668	>100
02038850	Holiday Creek nr Andersonville, Va.	8.53	1966-76	June 21, 1972	9,640	1,130	>100

Table 4.--Maximum known peak discharges--Continued

Station No.	Station Name	Drainage area (sq mi)	Period	Date	Discharge (cfs)	Discharge (cfsm)	Recurrence interval (years)
02038900	Dry Creek near Farmville, Va.	3.64	1966-72	June 21, 1972	700	192	-
02039000	Buffalo Creek nr Hampden Sydney, Va.	69.7	1940-76	June 21, 1972	9,160	131	35
02039500	Appomattox River at Farmville, Va.	303	1926-76	June 22, 1972	33,100	109	85
02040000	Appomattox River at Mattoax, Va.	726	1926-76	Aug. 18, 1940	35,000	48	90
02040500	Flat Creek near Amelia, Va.	73.0	1947-70	Oct. 21, 1961	3,300	45	50
02040600	Nibbs Creek trib nr Amelia, Va.	0.35	1966-75	Oct. 5, 1972	1,030	2,943	100
02041000	Deep Creek near Mannboro, Va.	158	1940-76	Oct. 6, 1972	15,000	95	80
02041500	Appomattox River nr Petersburg, Va.	1335	1926-66	Aug. 20, 1940	28,000	21	>100
02041650	Appomattox River at Matoaca, Va.	1344	1970-76	Oct. 7, 1972	40,800	30	-
02042200	Glebe Creek trib nr Charles City, Va.	0.7	1948-76	Oct. 2, 1961	900	1,286	50
02042250	Bailey Branch trib at Spring Grove, Va.	0.71	1967-76	July 14, 1975	282	397	25
02042300	Horsepen Branch at Richmond, Va.	1.35	1965-76	July 22, 1969	1,550	1,148	-
02042500	Chickahominy R nr Providence Forge, Va.	248	1942-76	Aug. 15, 1955	7,710	31	70
02042700	Collins Run nr Providence Forge, Va.	2.84	1948-76	May 26, 1948	1,630	574	15
02042710	Collins Run trib nr Providence Forge, Va.	0.28	1966-75	Sept.30, 1971	46	164	15
02042780	W.B. Long Hill Swamp nr Lightfoot, Va.	2.47	1970-76	Sept. 1, 1975	320	130	-
02043500	Cypress Swamp at Cypress Chapel, Va.	23.0	1954-71	Aug. 11, 1967	1,330	58	15
02044000	Nottoway River near Burkeville, Va.	38.7	1947-76	Oct. 23, 1971	13,400	346	>100

Table 4.--Maximum known peak discharges--Continued

Station No.	Station Name	Drainage area (sq mi)	Period	Date	Discharge (cfs)	Discharge (cfsm)	Recurrence interval (years)
02044200	Falls Creek trib nr Victoria, Va.	0.34	1962-76	June 21, 1972	343	1,009	25
02044400	Hurricane Branch at Blackstone, Va.	1.61	1967-76	Oct. 5, 1972	1,350	839	30
02044500	Nottoway River nr Rawlings, Va.	309	1940-76	Oct. 6, 1972	29,900	97	90
02045500	Nottoway River nr Stony Creek, Va.	579	1930-76	Aug. 17, 1940	25,200	44	95
02046000	Stony Creek near Dinwiddie, Va.	112	1940-76	Oct. 6, 1972	11,400	102	55
02046500	Anderson Branch at Sussex, Va.	5.35	1949-76	Sept.12, 1950	228	43	9
02046900	Musgrave Branch nr Drewryville, Va.	1.99	1966-75	Jan. 14, 1968	130	65	30
02047000	Nottoway River nr Sebrell, Va.	1421	1940-76	August 1940	48,000	34	>100
02047500	Blackwater River nr Dendron, Va.	294	1940-76	August 1940	10,000	34	65
02048000	Blackwater River at Zuni, Va.	456	1940-76	August 1940	16,000	35	>100
02048400	Seacock Creek near Ivor, Va.	27.4	1950-76	Sept.12, 1960	4,000	146	>100
02049500	Blackwater River nr Franklin, Va.	617	1940-76	August 1940	a21,000	34	>100
02049700	Cypress Swamp near Burdette, Va.	8.55	1950-76	Sept.12, 1960	526	62	10
02050050	Blackwater River trib nr Holland, Va.	2.76	1967-76	Aug. 3, 1973	408	148	10
02050400	North Meherrin River nr Briery, Va.	1.19	1966-75	Oct. 23, 1971	472	397	6
02050500	North Meherrin River nr Keysville, Va.	9.20	1949-75	June 21, 1972	1,720	187	45
02051000	North Meherrin River nr Lunenburg, Va.	55.6	1947-76	Oct. 23, 1971	14,400	259	>100
02051400	Saddletree Creek nr Lawrenceville, Va.	0.87	1958-73	Oct. 5, 1972	610	701	50

Table 4.--Maximum known peak discharges--Continued

Station No.	Station Name	Drainage area (sq mi)	Period	Date	Discharge (cfs)	Discharge (cfsm)	Recurrence interval (years)
02051500	Meherrin River nr Lawrenceville, Va.	552	1873-1976	Aug. 17, 1940	38,000	69	>100
02051600	Great Creek near Cochran, Va.	30.7	1958-76	Oct. 6, 1972	7,030	229	15
02051650	Rocky Run near Dolphin, Va.	1.41	1966-75	Oct. 5, 1972	315	223	15
02052000	Meherrin River at Emporia, Va.	747	1873-1976	August 1940	a40,000	54	>100
02052500	Fontaine Creek near Brink, Va.	65.2	1941-76	Oct. 6, 1972	16,000	245	>100
02053000	Fontaine Creek near Emporia, Va.	96.0	1945-53	July 19, 1945	3,500	36	-
02053800	S.F. Roanoke River nr Shawsville, Va.	110	1899-1976	June 21, 1972	14,200	129	>100
02054500	Roanoke River at Lafayette, Va.	257	1899-1976	June 21, 1972	24,500	95	>100
02055000	Roanoke River at Roanoke, Va.	395	1899-1976	June 21, 1972	25,300	64	95
02055100	Tinker Creek near Daleville, Va.	11.7	1940-76	June 21, 1972	4,000	342	30
02056000	Roanoke River at Niagara, Va.	512	1899-1976	June 21, 1972	28,800	56	55
02057000	Blackwater River nr Union Hall, Va.	208	1925-63	Aug. 14, 1940	19,700	95	30
02057500	Roanoke River near Toshes, Va.	1020	1899-1971	Aug. 15, 1940	70,000	69	>100
02057700	Powder Mill Creek at Rocky Mount, Va.	0.64	1967-76	June 21, 1973	214	334	10
02058000	Snow Creek at Sago, Va.	60.0	1934-44	Aug. 14, 1940	12,000	200	60
02058400	Pigg River near Sandy Level, Va.	350	1941-76	June 22, 1972	22,700	65	70
02058500	Pigg River near Toshes, Va.	394	1931-71	Aug. 15, 1940	34,300	87	>100
02059450	S.F. Goose Creek at Montvale, Va.	7.56	1967-76	June 21, 1972	2,060	272	25

Table 4.--Maximum known peak discharges--Continued

Station No.	Station Name	Drainage area (sq mi)	Period	Date	Discharge (cfs)	Discharge (cfsm)	Recurrence interval (years)
02059500	Goose Creek near Huddleston, Va.	188	1924-76	Oct. 19, 1937	20,300	108	30
02060500	Roanoke River at Altavista, Va.	1789	1899-1976	Aug. 15, 1940	105,000	59	>100
02061000	Big Otter River nr Bedford, Va.	116	1940-60	Mar. 23, 1949	12,100	104	15
02061150	Chestnut Branch near Forest, Va.	1.65	1961-73	Aug. 23, 1967	404	245	9
02061300	Nininger Creek near Bedford, Va.	4.77	1949-74	Mar. 23, 1949	2,200	461	60
02061500	Big Otter River nr Evington, Va.	320	1930-76	Oct. 19, 1937	27,500	86	40
02062000	Big Otter River nr Altavista, Va.	372	1930-38	Oct. 19, 1937	28,000	75	-
02062500	Roanoke River at Brookneal, Va.	2415	1899-1976	Aug. 15, 1940	130,000	54	>100
02063500	Falling River at Spring Mills, Va.	52.2	1940-60	August 1940	9,500	182	-
02063600	Button Creek near Rustburg, Va.	0.59	1966-75	Mar. 19, 1975	253	429	15
02064000	Falling River near Naruna, Va.	173	1929-76	June 22, 1972	32,600	188	>100
02065100	Snake Creek near Brookneal, Va.	1.68	1967-76	June 21, 1972	715	426	12
02065200	Roanoke River at Clarkton, Va.	2691	1963-76	June 22, 1972	85,500	32	65
02065300	Right Hand Fork nr Appomattox, Va.	2.08	1967-76	June 21, 1972	705	339	12
02065500	Cub Creek at Phenix, Va.	98.0	1940-76	June 22, 1972	7,380	75	>100
02066000	Roanoke River at Randolph, Va.	2977	1877-1976	Aug. 16, 1940	150,000	50	>100
02066600	Sandy Creek near Wylliesburg, Va.	8.84	1966-75	Oct. 24, 1971	1,600	181	-
02067000	Roanoke River near Clover, Va.	3230	1930-52	Aug. 16, 1940	160,000	50	>100

Table 4.--Maximum known peak discharges--Continued

Station No.	Station Name	Drainage area (sq mi)	Period	Date	Discharge (cfs)	Discharge (cfsm)	Recurrence interval (years)
02067810	Maple Swamp B trib nr Meadows of Dan, Va.	0.49	1967-76	Sept.18, 1975	113	231	-
02069600	Anglin Branch near Stuart, Va.	3.10	1967-76	Mar. 30, 1975	570	184	7
02069700	South Mayo River nr Nettleridge, Va.	84.6	1963-76	June 21, 1972	12,500	148	45
02070000	North Mayo River near Spencer, Va.	108	1929-76	Oct. 9, 1947	17,200	159	>100
02071800	Nicholas Creek near Ferrum, Va.	12.2	1949-76	June 28, 1949	11,800	967	-
02072000	Smith River near Philpott, Va.	216	1947-76	June 29, 1949	17,000	80	-
02072500	Smith River at Bassett, Va.	259	1930-76	Oct. 19, 1937	38,200	147	-
02073000	Smith River at Martinsville, Va.	380	1930-76	Oct. 19, 1937	39,000	103	-
02074500	Sandy River near Danville, Va.	112	1930-76	Aug. 14, 1940	23,000	205	>100
02075000	Dan River at Danville, Va.	2050	1892-1976	Aug. 15, 1940	75,000	37	>100
02075350	Powells Creek nr Turbeville, Va.	0.28	1958-76	July 11, 1965	384	1,371	30
02075450	Little Winns Cr nr Turbeville, Va.	2.30	1958-73	Oct. 10, 1959	865	376	15
02075500	Dan River at Paces, Va.	2550	1940-76	June 23, 1972	64,800	25	-
02075900	Lawsons Creek at Turbeville, Va.	8.7	1951-75	Oct. 10, 1959	7,740	890	-
02076000	Dan River at South Boston, Va.	2730	1899-1952	Aug. 16, 1940	81,000	30	>100
02076200	Bearskin Creek near Chatham, Va.	4.06	1967-76	June 21, 1972	1,920	473	20
02076500	Georges Creek near Gretna, Va.	9.24	1950-76	Aug. 24, 1967	1,440	156	15
02076600	Whitethorn Creek trib at Gretna, Va.	1.93	1966-75	June 21, 1972	510	264	25

Table 4.--Maximum known peak discharges--Continued

Station No.	Station Name	Drainage area (sq mi)	Period	Date	Discharge (cfs)	Discharge (cfsm)	Recurrence interval (years)
02076700	Blacks Creek nr Mt. Airy, Va.	3.44	1966-76	June 21, 1972	1,080	314	20
02077000	Banister River at Halifax, Va.	547	1929-76	Sept.20, 1944	50,000	91	>100
02077500	Hyco River near Denniston, Va.	289	1934-76	Sept. 8, 1974	11,700	40	85
02078000	Hyco River near Omega, Va.	413	1934-50	Sept.20, 1944	11,900	29	18
02079000	Roanoke River at Clarksville, Va.	7320	1935-52	Aug. 17, 1940	280,000	38	>100
02079640	Allen Creek near Boydton, Va.	53.4	1962-76	Oct. 23, 1971	5,620	105	11
02079720	Smith Creek trib nr South Hill, Va.	0.39	1966-75	Sept. 6, 1974	178	456	10
03162810	Saddle Creek trib nr Independence, Va.	0.39	1966-75	May 28, 1973	84	215	-
03164000	New River near Galax, Va.	1131	1878-1976	Aug. 14, 1940	141,000	125	>100
03165000	Chestnut Creek at Galax, Va.	39	1940-76	Aug. 14, 1940	11,000	282	>100
03165200	Mill Creek trib at Galax, Va.	1.05	1966-74	Sept.11, 1971	223	212	-
03165500	New River at Ivanhoe, Va.	1340	1840-1976	Aug. 14, 1940	155,000	116	>100
03165700	Cripple Creek at Cedar Springs, Va.	11.3	1967-76	June 21, 1972	585	52	-
03167000	Reed Creek at Grahams Forge, Va.	247	1908-76	July 16, 1916	17,500	71	>100
03167300	Mira Fork trib near Dugspur, Va.	0.62	1967-76	May 13, 1971	142	229	-
03167500	Big Reed Island Cr nr Allisonia, Va.	278	1908-76	Sept.30, 1959	14,500	52	50
03168000	New River at Allisonia, Va.	2202	1878-1976	Aug. 14, 1940	185,000	84	>100
03168500	Peak Creek at Pulaski, Va.	60.9	1951-61	Mar. 1, 1954	4,830	79	18

Table 4.--Maximum known peak discharges--Continued

Station No.	Station Name	Drainage area (sq mi)	Period	Date	Discharge (cfs)	Discharge (cfsm)	Recurrence interval (years)
03168600	Peak Creek trib near Pulaski, Va.	0.61	1949-76	August 1949	340	557	75
03168750	Thorne Springs Br nr Dublin, Va.	4.77	1957-76	May 28, 1973	2,200	461	60
03169350	Brush Creek at Terrys Fork, Va.	1.40	1957-72	Sept.30, 1959	648	463	25
03169500	Little River near Copper Valley, Va.	239	1900-40	Aug. 14, 1940	14,000	59	-
03170000	Little River at Graysonton, Va.	300	1900-76	June 21, 1972	22,800	76	>100
03171000	New River at Radford, Va.	2748	1878-1976	Aug. 14, 1940	218,000	79	85
03171150	Crab Creek trib nr Christiansburg, Va.	1.23	1957-72	Oct. 25, 1971	182	148	9
03171500	New River at Eggleston, Va.	2941	1878-1976	Aug. 14, 1940	219,000	74	75
03173000	Walker Creek at Bane, Va.	305	1938-76	Jan. 30, 1957	16,500	54	65
03175500	Wolf Creek near Narrows, Va.	223	1909-76	Jan. 29, 1957	12,900	58	>100
03176500	New River at Glen Lyn, Va.	3768	1878-1976	Aug. 14, 1940	226,000	60	70
03177700	Bluestone River at Bluefield, Va.	39.8	1966-76	Mar. 14, 1975	1,030	26	-
03207400	Prater Creek at Vansant, Va.	19.8	1951-76	Jan. 29, 1957	4,550	230	35
03207500	Levisa Fork near Grundy, Va.	235	1929-74	Jan. 29, 1957	33,200	141	45
03207800	Levisa Fork at Big Rock, Va.	297	1968-76	Jan. 11, 1974	19,200	65	-
03208500	Russell Fork at Haysi, Va.	286	1926-76	Jan. 29, 1957	46,600	163	40
03208700	N.F. Pound River at Pound, Va.	18.5	1958-76	Mar. 12, 1963	4,480	242	-
03208800	Pound R at Pound above Indian Creek, Va.	36.7	1964-76	May 18, 1975	3,460	94	-

Table 4.--Maximum known peak discharges--Continued

Station No.	Station Name	Drainage area (sq mi)	Period	Date	Discharge (cfs)	Discharge (cfsm)	Recurrence interval (years)
03208850	Pound R at Pound bel Bold Camp Cr, Va.	61.2	1964-76	May 18, 1975	6,290	103	-
03208900	Pound River nr Georges Fork, Va.	82.5	1964-76	May 18, 1975	10,900	132	-
03208950	Cranes Nest River near Clintwood, Va.	66.5	1964-76	Mar. 7, 1967	7,120	107	12
03209000	Pound R bel Flannagan Dam nr Haysi, Va.	221	1926-76	Mar. 23, 1929	30,000	136	55
03209200	Russell Fork at Bartlick, Va.	526	1958-76	Mar. 12, 1963	47,000	89	-
03471100	Dickey Creek at Sugar Grove, Va.	7.28	1967-76	June 21, 1972	475	65	15
03471500	S.F. Holston R at Rside nr Chilhowie, Va.	76.1	1907-76	June 12, 1923	6,000	79	>100
03472500	Beaverdam Creek at Damascus, Va.	56.0	1948-76	Jan. 29, 1957	4,200	75	13
03473000	S.F. Holston River at Vestal, Va.	301	1867-1976	Jan. 29, 1957	15,100	50	65
03473500	M.F. Holston R at Groseclose, Va.	7.39	1948-76	July 6, 1953	813	110	60
03473800	Staley Creek near Marion, Va.	8.33	1951-76	Dec. 7, 1950	460	55	45
03474000	M.F. Holston R at Sevenmile Ford, Va.	132	1942-76	Jan. 29, 1957	7,680	58	20
03474500	M.F. Holston River at Chilhowie, Va.	155	1907-31	June 12, 1923	10,000	65	18
03474700	Hutton Creek near Chilhowie, Va.	8.32	1967-76	Dec. 10, 1972	649	78	-
03475000	M.F. Holston River nr Meadowview, Va.	211	1932-53	Feb. 18, 1944	6,650	32	12
03475700	Spring Creek near Abingdon, Va.	2.99	1967-76	Sept.30, 1972	420	140	-
03478400	Beaver Creek near Bristol, Va.	27.7	1957-76	Apr. 28, 1970	1,090	39	17
03487800	Lick Creek nr Chatham Hill, Va.	25.5	1966-76	Dec. 10, 1972	2,520	99	14

Table 4.--Maximum known peak discharges--Continued

Station No.	Station Name	Drainage area (sq mi)	Period	Date	Discharge (cfs)	Discharge (cfsm)	Recurrence interval (years)
03488000	N.F. Holston R nr Saltville, Va.	222	1862-1976	February 1862	22,000	99	>100
03488500	N.F. Holston River at Holston, Va.	402	1952-76	Jan. 29, 1957	24,300	60	28
03489500	N.F. Holston River at Mendota, Va.	493	1909-39	Feb. 3, 1923	19,600	40	17
03489700	Fleenor Branch nr Bristol, Va.	0.59	1966-75	July 14, 1973	89	151	-
03489800	Cove Creek near Shelleys, Va.	17.3	1951-76	Mar. 12, 1963	2,500	145	15
03489870	Big Mocassin Creek nr Hansonville, Va.	41.9	1966-76	Mar. 30, 1975	3,660	87	12
03489900	Big Moccasin Creek near Gate City, Va.	79.6	1953-76	Mar. 12, 1963	4,900	62	27
03490000	N.F. Holston River nr Gate City, Va.	672	1862-1976	February 1862	54,000	80	>100
03521500	Clinch River at Richlands, Va.	139	1901-76	June 22, 1901	11,500	83	>100
03523000	Cedar Creek near Lebanon, Va.	51.5	1953-76	Mar. 12, 1963	3,320	64	100
03524000	Clinch River at Cleveland, Va.	528	1862-1976	Jan. 30, 1957	31,000	59	100
03524500	Guest River at Coeburn, Va.	87.3	1918-76	Mar. 12, 1963	7,720	88	28
03525000	Stony Creek at Fort Blackmore, Va.	41.4	1950-76	Mar. 12, 1963	10,100	244	50
03525800	Copper Creek trib nr Dickensonville, Va.	0.99	1966-75	Mar. 30, 1975	177	179	8
03526000	Copper Creek near Gate City, Va.	106	1948-76	Mar. 30, 1975	7,040	66	25
03527000	Clinch River at Speers Ferry, Va.	1126	1862-1976	Mar. 12, 1963	46,800	42	40
03529500	Powell River at Big Stone Gap, Va.	112	1945-76	Mar. 12, 1963	16,800	150	50
03530000	S.F. Powell River at Big Stone Gap, Va.	40	1945-76	Mar. 12, 1963	4,800	120	40

Table 4.--Maximum known peak discharges--Continued

Station No.	Station Name	Drainage area (sq mi)	Period	Date	Discharge (cfs)	Discharge (cfsm)	Recurrence interval (years)
03530500	N.F. Powell River at Pennington Gap, Va.	70	1918-76	Mar. 12, 1963	13,100	187	>100
03531000	Powell River near Pennington Gap, Va.	290	1921-31	Mar. 23, 1929	28,900	100	-
03531500	Powell River near Jonesville, Va.	319	1918-76	Mar. 12, 1963	31,100	97	40

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TABLE 5

Table 5.--Alphabetical list of gaging stations.

STATION	
1616000	ABRAMS CREEK NEAR WINCHESTER VA
1655000	ACCOTINK CREEK NEAR ACCOTINK VA
1654000	ACCOTINK CREEK NEAR ANNANDALE VA
2079640	ALLEN CREEK NEAR BOYDTON VA
2046500	ANDERSON BRANCH AT SUSSEX VA
2069600	ANGLIN BRANCH NEAR STUART VA
2039500	APPOMATTOX RIVER AT FARMVILLE VA
2041650	APPOMATTOX RIVER AT MATOACA VA
2040000	APPOMATTOX RIVER AT MATTOAX VA
2038800	APPOMATTOX RIVER NEAR APPOMATTOX VA
2041500	APPOMATTOX RIVER NEAR PETERSBURG VA
1660400	AQUIA CREEK NEAR GARRISONVILLE VA
1674700	AYLETT CREEK AT AYLETT VA
2011500	BACK CREEK NEAR MOUNTIAN GROVE VA
2042250	BAILEY BRANCH TRIB AT SPRING GROVE VA
2028800	BALLINGER CREEK AT ESMONT VA
2077000	BANISTER RIVER AT HALIFAX VA
1662800	BATTLE RUN NEAR LAUREL MILLS VA
2076200	BEARSKIN CREEK NEAR CHATHAM VA
3478400	BEAVER CREEK NEAR BRISTOL VA
3477500	BEAVER CREEK NEAR WALLACE VA
3472500	BEAVERDAM CREEK AT DAMASCUS VA
3167700	BEAVERDAM CREEK AT HILLSVILLE VA
1670000	BEAVERDAM SWAMP NEAR ARK VA
1624000	BELL CREEK NEAR STAUNTON VA
2035400	BIG LICKINGHOLE CREEK TRIB NR FERNCLIFF VA
3489900	BIG MOCCASIN CREEK NEAR GATE CITY VA
3489870	BIG MOCCASIN CREEK NEAR HANSONVILLE VA
2062000	BIG OTTER RIVER NEAR ALTAVISTA VA
2061000	BIG OTTER RIVER NEAR BEDFORD VA
2061500	BIG OTTER RIVER NEAR EVINGTON VA
3167500	BIG REED ISLAND CREEK NEAR ALLISONIA VA
2076700	BLACKS CREEK NEAR MT AIRY VA
1621400	BLACKS RUN AT HARRISONBURG VA
1621450	BLACKS RUN TRIB NEAR HARRISONBURG VA
2048000	BLACKWATER RIVER AT ZUNI VA
2047500	BLACKWATER RIVER NEAR DENDRON VA
2049500	BLACKWATER RIVER NEAR FRANKLIN VA
2057000	BLACKWATER RIVER NEAR UNION HALL VA
2050050	BLACKWATER RIVER TRIB NEAR HOLLAND VA
3177700	BLUESTONE RIVER AT BLUEFIELD VA
2021100	BRATTON CREEK TRIB NEAR GOSHEN VA
1656500	BROAD RUN AT BUCKLAND VA
1656200	BROAD RUN NEAR WARRENTON VA
1656600	BROAD RUN TRIB AT BUCKLAND VA
1644250	S F BROAD RUN NEAR ARCOLA VA
3169350	BRUSH CREEK AT TERRYS FORK VA
1622300	BUFFALO BRANCH TRIB NR AUGUSTA SPRINGS VA
1622400	BUFFALO BRANCH TRIB NEAR CHRISTIAN VA
2039000	BUFFALO CREEK NEAR HAMPDEN SYDNEY VA
2027800	BUFFALO RIVER NEAR TYE RIVER VA
2027700	BUFFALO RIVER TRIB NEAR AMHERST VA
2015700	BULLPASTURE RIVER AT WILLIAMSVILLE VA

Table 5.--Alphabetical list of gaging stations.

STATION	
1656725	BULL RUN NEAR CATHARPIN VA
1657000	BULL RUN NEAR MANASSAS VA
1671500	BUNCH CREEK NEAR BOSWELLS TAVERN VA
2025800	BURTON CREEK TRIB AT LYNCHBURG VA
1661800	BUSH MILL STREAM NEAR HEATHSVILLE VA
2063600	BUTTON CREEK NEAR RUSTBURG VA
2063700	BUTTON CREEK TRIB NEAR RUSTBURG VA
2020500	CALFPASTURE RIVER AB MILL CR AT GOSHEN VA
2021000	CALFPASTURE RIVER AT GOSHEN VA
2020200	CALFPASTURE RIVER NEAR WEST AUGUSTA VA
1653000	CAMERON RUN AT ALEXANDRIA VA
2018700	CAMPBELL BRANCH NEAR FINCASTLE VA
2018500	CATAWBA CREEK NEAR CATAWBA VA
2019000	CATAWBA CREEK NEAR FINCASTLE VA
1638480	CATOCTIN CREEK AT TAYLORSTOWN VA
1668500	CAT POINT CREEK NEAR MONTROSS VA
2009500	CATTAIL RUN NEAR BOLAR VA
3523000	CEDAR CREEK NEAR LEBANON VA
3475600	CEDAR CREEK NEAR MEADOWVIEW VA
1634500	CEDAR CREEK NEAR WINCHESTER VA
2021700	CEDAR GROVE BRANCH NR ROCKBRIDGE BATHS VA
1656000	CEDAR RUN NEAR CATLETT VA
1655500	CEDAR RUN NEAR WARRENTON VA
1667600	CEDAR RUN TRIB NEAR CULPEPER VA
2061150	CHESTNUT BRANCH NEAR FOREST VA
3165000	CHESTNUT CREEK AT GALAX VA
2042500	CHICKAHOMINY RIVER NR PROVIDENCE FORGE VA
1624800	CHRISTIANS CREEK NEAR FISHERVILLE VA
1629945	CHUB RUN NEAR STANLEY VA
3524000	CLINCH RIVER AT CLEVELAND VA
3521500	CLINCH RIVER AT RICHLANDS VA
3527000	CLINCH RIVER AT SPEERS FERRY VA
2042700	COLLINS RUN NEAR PROVIDENCE FORGE VA
2042710	COLLINS RUN TRIB NEAR PROVIDENCE FORGE VA
1665400	CONWAY RIVER NEAR STANARDSVILLE VA
3526000	COPPER CREEK NEAR GATE CITY VA
3525800	COPPER CREEK TRIB NEAR DICKENSONVILLE VA
2028700	COVE CREEK NEAR COVESVILLE VA
2028750	COVE CREEK AT FABER VA
3489850	COVE CREEK NEAR HILTON VA
3489800	COVE CREEK NEAR SHELLEYS VA
2016000	COWPASTURE RIVER NEAR CLIFTON FORGE VA
2015600	COWPASTURE RIVER NEAR HEAD WATERS VA
3171150	CRAB CREEK TRIB NEAR CHRISTIANSBURG VA
2017300	CRAIG CREEK AT NEW CASLTE VA
2018000	CRAIG CREEK AT PARR VA
2017700	CRAIG CREEK TRIB NEAR NEW CASTLE VA
3208950	CRANES NEST RIVER NEAR CLINTWOOD VA
3165700	CRIPPLE CREEK AT CEDAR SPRINGS VA
1632970	CROOKED RUN NEAR MT JACKSON VA
1632950	CROOKED RUN TRIB NEAR CONICVILLE VA
2065500	CUB CREEK AT PHENIX VA
1628600	CUB RUN TRIB AT MONTEVIDEO VA
2043500	CYPRESS SWAMP AT CYPRESS CHAPEL VA
2049700	CYPRESS SWAMP NEAR BURDETTE VA

Table 5.--Alphabetical list of gaging stations.

STATION	
2075000	DAN RIVER AT DANVILLE VA
2075500	DAN RIVER AT PACES VA
2076000	DAN RIVER AT SOUTH BOSTON VA
2041000	DEEP CREEK NEAR MANNBORO VA
3471100	DICKEY CREEK AT SUGAR GROVE VA
1645700	DIFFICULT RUN NEAR FAIRFAX VA
1646000	DIFFICULT RUN NEAR GREAT FALLS VA
3169200	DODD CREEK TRIB NEAR FLOYD VA
2032200	DOYLES RIVER NEAR WHITEHALL VA
1669500	DRAGON SWAMP NEAR CHURCH VIEW VA
2038900	DRY CREEK NEAR FARMVILLE VA
1621000	DRY RIVER AT RAWLEY SPRINGS VA
2013000	DUNLAP CREEK NEAR COVINGTON VA
2038000	FALLING CREEK NEAR CHESTERFIELD VA
2038500	FALLING CREEK NEAR DREWRYS BLUFF VA
2037800	FALLING CREEK NEAR MIDLOTHIAN VA
2063500	FALLING RIVER AT SPRING MILLS VA
2064000	FALLING RIVER NEAR NARUNA VA
2044200	FALLS CREEK TRIB NEAR VICTORIA VA
1668300	FARMERS HALL CREEK NEAR CHAMPLAIN VA
2036500	FINE CREEK AT FINE CREEK MILLS VA
2040500	FLAT CREEK NEAR AMELIA VA
3489700	FLEENOR BRANCH NEAR BRISTOL VA
2052500	FONTAINE CREEK NEAR BRINK VA
2053000	FONTAINE CREEK NEAR EMPORIA VA
1671615	FOSTERS CREEK NEAR FERNCLIFF VA
1652500	FOURMILE RUN AT ALEXANDRIA VA
2030100	FRISBY BRANCH NEAR BUCKINGHAM VA
2076500	GEORGES CREEK NEAR GRETNA VA
1668200	GINGOTEAGUE RUN NEAR PORT ROYAL VA
2042200	GLEBE CREEK TRIB NEAR CHARLES CITY VA
2059500	GOOSE CREEK NEAR HUDDLESTON VA
1644000	GOOSE CREEK NEAR LEESBURG VA
1643700	GOOSE CREEK NEAR MIDDLEBRUG VA
2059450	S F GOOSE CREEK AT MONTVALE VA
2051600	GREAT CREEK NEAR COCHRAN VA
1661600	GREAT WICOMICO RIVER NEAR HORSE HEAD VA
3524500	GUEST RIVER AT COEBURN VA
1484800	GUY CREEK NEAR NASSAWADOX VA
3474800	HALL CREEK NEAR GLADE SPRING VA
2032540	HANEYTOWN CREEK NEAR STANARDSVILLE VA
1636210	HAPPY CREEK AT FRONT ROYAL VA
2030000	HARDWARE R BL BRIERY RN NR SCOTTSVILLE VA
2029500	HARDWARE RIVER NEAR SCOTTSVILLE VA
2029200	N F HARDWARE RIVER AT RED HILL VA
2029400	S B OF N F HARDWARE RIVER NR N GARDEN VA
1664800	HARPERS RUN NEAR MORRISVILLE VA
2029430	HARRIS CREEK NEAR KEENE VA
1671750	HARRIS CREEK NEAR TREVILIANS VA
1663500	HAZEL RIVER AT RIXEYVILLE VA
3171800	HELVEYS MILL CREEK TRIB AT PT PLEASANT VA
2033700	HENDERSON CREEK NEAR SHADWELL VA
1613900	HOGUE CREEK NEAR HAYFIELD VA
2038850	HOLIDAY CREEK NEAR ANDERSONVILLE VA
3474500	M F HOLSTON RIVER AT CHILHOWIE VA

Table 5.--Alphabetical list of gaging stations.

STATION	
3473500	M F HOLSTON RIVER AT GROSECLOSE VA
3474000	M F HOLSTON RIVER AT SEVENMILE FORD VA
3473600	M F HOLSTON RIVER NEAR GROSECLOSE VA
3475000	M F HOLSTON RIVER NEAR MEADOWVIEW VA
3488500	N F HOLSTON RIVER AT HOLSTON VA
3489500	N F HOLSTON RIVER AT MENDOTA VA
3490000	N F HOLSTON RIVER NEAR GATE CITY VA
3488000	N F HOLSTON RIVER NEAR SALTVILLE VA
3471500	S F HOLSTON R AT RIVERSIDE NR CHILHOWIE VA
3471200	S F HOLSTON RIVER AT TEAS VA
3473000	S F HOLSTON RIVER AT VESTAL VA
2042300	HORSEPEN BRANCH AT RICHMOND VA
1668800	HOSKINS CREEK NEAR TAPPAHANNOCK VA
2034050	HUNTERS BRANCH NEAR PALMYRA VA
2044400	HURRICANE BRANCH AT BLACKSTONE VA
3474700	HUTTON CREEK NEAR CHILHOWIE VA
2077500	HYCO RIVER NEAR DENNISTON VA
2078000	HYCO RIVER NEAR OMEGA VA
2012500	JACKSON RIVER AT FALLING SPRING VA
2026000	JAMES RIVER AT BENT CREEK VA
2019500	JAMES RIVER AT BUCHANAN VA
2035000	JAMES RIVER AT CARTERSVILLE VA
2025500	JAMES RIVER AT HOLCOMBS ROCK VA
2016500	JAMES RIVER AT LICK RUN VA
2029000	JAMES RIVER AT SCOTTSVILLE VA
2037500	JAMES RIVER NEAR RICHMOND VA
2015900	JERRY BRANCH NEAR CLIFTON FORGE VA
2017500	JOHNS CREEK AT NEW CASTLE VA
2017400	JOHNS CREEK TRIB NEAR NEW CASTLE VA
2079660	JOLLY HOLLOW BRANCH AT BOYDTON VA
2046400	JONES HOLE SWAMP TRIB NEAR CARSON VA
2042400	JORDAN BRANCH AT RICHMOND VA
2022500	KERRS CREEK NEAR LEXINGTON VA
2075900	LAWSONS CREEK AT TURBEVILLE VA
1644200	LENAH RUN AT LENAH VA
3207800	LEVISA FORK AT BIG ROCK VA
3207500	LEVISA FORK NEAR GRUNDY VA
3487800	LICK CREEK NEAR CHATHAM HILL VA
3170000	LITTLE RIVER AT GRAYSONTON VA
3169500	LITTLE RIVER NEAR COPPER VALLEY VA
1671100	LITTLE RIVER NEAR DOSWELL VA
3171600	LITTLE STONY CREEK AT PEMBROKE VA
2034300	LITTLE WILLIS RIVER AT CURDSVILLE VA
2075450	LITTLE WINNS CREEK NEAR TURBEVILLE VA
1654500	LONG BRANCH AT ANNANDALE VA
1632300	LONG MEADOW NEAR BROADWAY VA
2042780	W B LONG HILL SWAMP NEAR LIGHTFOOT VA
2032550	LYNCH RIVER AT NORTONSVILLE VA
2067810	MAPLE SWAMP B TRIB NEAR MEADOWS OF DAN VA
1674500	MATTAPONI RIVER NEAR BEULAHVILLE VA
1674000	MATTAPONI RIVER NEAR BOWLING GREEN VA
2024500	MAURY RIVER AT GLASGOW VA
2021500	MAURY RIVER AT ROCKBRIDGE BATHS VA
2024000	MAURY RIVER NEAR BUENA VISTA VA
2023000	MAURY RIVER NEAR LEXINGTON VA

Table 5.--Alphabetical list of gaging stations.

STATION	
2017000	MEADOW CREEK AT NEW CASTLE VA
2031000	MECHUM RIVER NEAR IVY VA
2052000	MEHERRIN RIVER AT EMPORIA VA
2051500	MEHERRIN RIVER NEAR LAWRENCEVILLE VA
1625000	MIDDLE RIVER NEAR GROTTOES VA
1624300	MIDDLE RIVER NEAR VERONA VA
2019400	MILL CREEK NEAR BUCHANAN VA
3162800	MILL CREEK NEAR TROUT DALE VA
3165200	MILL CREEK TRIBUTARY AT GALAX VA
2028900	MILLER CREEK NEAR SCOTTSVILLE VA
2046200	MILLRUN BRANCH NEAR MCKENNEY VA
3167300	MIRA FORK TRIBUTARY NEAR DUGSPUR VA
2033300	MOORES CREEK NEAR CHARLOTTESVILLE VA
2031500	N F MOORMANS RIVER NEAR WHITEHALL VA
1674100	MOTTO RIVER TRIB NEAR CEDON VA
1665000	MOUNTAIN RUN NEAR CULPEPER VA
1670100	MOUNTAIN RUN TRIB NEAR GORDONSVILLE VA
2032300	MUDDY RUN NEAR STANARDSVILLE VA
2046900	MUSGRAVE BRANCH NEAR DREWRYVILLE VA
1669800	MY LADYS SWAMP NEAR SALUDA VA
3168000	NEW RIVER AT ALLISONIA VA
3171500	NEW RIVER AT EGGLESTON VA
3176500	NEW RIVER AT GLEN LYN VA
3165500	NEW RIVER AT IVANHOE VA
3171000	NEW RIVER AT RADFORD VA
3164000	NEW RIVER NEAR GALAX VA
2040600	NIBBS CREEK TRIB NEAR AMELIA VA
2071800	NICHOLAS CREEK NEAR FERRUM VA
2061300	NININGER CREEK NEAR BEDFORD VA
1671000	NORTH ANNA RIVER NEAR DOSWELL VA
2018800	NORTH FORK NEAR FINCASTLE VA
2070000	NORTH MAYO RIVER NEAR SPENCER VA
2050400	NORTH MEHERRIN RIVER NEAR BRIERY VA
2050500	NORTH MEHERRIN RIVER NEAR KEYSVILLE VA
2051000	NORTH MEHERRIN RIVER NEAR LUNENBURG VA
1622000	NORTH RIVER NEAR BURKETOWN VA
1620500	NORTH RIVER NEAR STOKESVILLE VA
1622100	NORTH RIVER TRIB AT MT CRAWFORD VA
2044000	NOTTOWAY RIVER NEAR BURKEVILLE VA
2044500	NOTTOWAY RIVER NEAR RAWLINGS VA
2047000	NOTTOWAY RIVER NEAR SEBRELL VA
2045500	NOTTOWAY RIVER NEAR STONY CREEK VA
1656700	OCCOQUAN RIVER NEAR MANASSAS VA
1657500	OCCOQUAN RIVER NEAR OCCOQUAN VA
1615000	OPEQUON CREEK NEAR BERRYVILLE VA
1673000	PAMUNKEY RIVER NEAR HANOVER VA
1672900	PAMUNKEY RIVER TRIB NEAR HANOVER VA
2032530	PARKER BRANCH NEAR STANARDSVILLE VA
1635500	PASSAGE CREEK NEAR BUCKTON VA
3168500	PEAK CREEK AT PULASKI VA
3168600	PEAK CREEK TRIBUTARY NEAR PULASKI VA
2025000	PEDLAR RIVER NEAR PEDLAR MILLS VA
2058400	PIGG RIVER NEAR SANDY LEVEL VA
2058500	PIGG RIVER NEAR TOSHES VA
2027500	PINEY RIVER AT PINEY RIVER VA

Table 5.--Alphabetical list of gaging stations.

STATION	
1669000	PISCATAWAY CREEK NEAR TAPPAHANNOCK VA
1673800	PO RIVER NEAR SPOTSYLVANIA VA
1655350	POHICK CREEK NEAR SPRINGFIELD VA
1665050	PONY MOUNTAIN BRANCH NEAR CULPEPER VA
3487850	POSSUM JAW CREEK NEAR CHATHAM HILL VA
2014000	POTTS CREEK NEAR COVINGTON VA
3208800	POUND RIVER ABOVE INDIAN CREEK AT POUND VA
3208850	POUND RIVER BL BOLD CAMP CREEK AT POUND VA
3209000	POUND RIVER BL FLANNAGAN DAM NEAR HAYSI VA
3208900	POUND RIVER NEAR GEORGES FORK VA
3208700	N F POUND RIVER AT POUND VA
2057700	POWDER MILL CREEK AT ROCKY MOUNT VA
3529500	POWELL RIVER AT BIG STONE GAP VA
3531500	POWELL RIVER NEAR JONESVILLE VA
3531000	POWELL RIVER NEAR PENNINGTON GAP VA
3530500	N F POWELL RIVER AT PENNINGTON GAP VA
3530000	S F POWELL RIVER AT BIG STONE GAP VA
2030900	POWELLS CREEK NEAR CROZET VA
2075350	POWELLS CREEK NEAR TURBEVILLE VA
3207400	PRATER CREEK AT VANSANT VA
1633650	PUGHS RUN NEAR WOODSTOCK VA
1633700	PUGHS RUN TRIB NEAR COLUMBIA FURNACE VA
1658500	S F QUANTICO CREEK NR INDEPENDENT HILL VA
1667000	RAPIDAN RIVER AT RAPIDAN VA
1667500	RAPIDAN RIVER NEAR CULPEPER VA
1665500	RAPIDAN RIVER NEAR RUCKERSVILLE VA
1665300	RAPIDAN RIVER NEAR STANARDSVILLE VA
1664500	RAPPAHANNOCK RIVER AT KELLYS FORD VA
1664000	RAPPAHANNOCK RIVER AT REMINGTON VA
1668000	RAPPAHANNOCK RIVER NEAR FREDERICKSBURG VA
1662000	RAPPAHANNOCK RIVER NEAR WARRENTON VA
3167000	REED CREEK AT GRAHAMS FORGE VA
1674200	REEDY CREEK NEAR DAWN VA
2020100	RENICK RUN NEAR BUCHANAN VA
2065300	RIGHT HAND FORK NEAR APPOMATTOX VA
2034000	RIVANNA RIVER AT PALMYRA VA
2033500	RIVANNA RIVER NEAR CHARLOTTESVILLE VA
2032680	N F RIVANNA RIVER NEAR PROFITT VA
2032500	S F RIVANNA RIVER NEAR EARLYSVILLE VA
2066500	ROANOKE CREEK AT SAXE VA
2060500	ROANOKE RIVER AT ALTAVISTA VA
2062500	ROANOKE RIVER AT BROOKNEAL VA
2079500	ROANOKE RIVER AT BUGGS ISLAND VA
2079000	ROANOKE RIVER AT CLARKSVILLE VA
2065200	ROANOKE RIVER AT CLARKTON VA
2054500	ROANOKE RIVER AT LAFAYETTE VA
2056000	ROANOKE RIVER AT NIAGARA VA
2066000	ROANOKE RIVER AT RANDOLPH VA
2055000	ROANOKE RIVER AT ROANOKE VA
2067000	ROANOKE RIVER NEAR CLOVER VA
2057500	ROANOKE RIVER NEAR TOSHES VA
2053800	S F ROANOKE RIVER NEAR SHAWSVILLE VA
1666500	ROBINSON RIVER NEAR LOCUST DALE VA
1665200	ROCK RUN TRIB NEAR GOLDVEIN VA
2035450	ROCKETTS CREEK TRIB NEAR GUM SPRINGS VA

Table 5.--Alphabetical list of gaging stations.

STATION	
2028500	ROCKFISH RIVER NEAR GREENFIELD VA
2051700	ROCKY RUN AT LAWRENCEVILLE VA
2051650	ROCKY RUN NEAR DOLPHIN VA
1662500	RUSH RIVER AT WASHINGTON VA
1662600	RUSH RIVER TRIB NEAR WASHINGTON VA
3209200	RUSSELL FORK AT BARTLICK VA
3208500	RUSSELL FORK AT HAYSI VA
3162810	SADDLE CREEK TRIB NEAR INDEPENDENCE VA
2051400	SADDLETREE CREEK NEAR LAWRENCEVILLE VA
2066600	SANDY CREEK NEAR WYLLIESBURG VA
2074500	SANDY RIVER NEAR DANVILLE VA
2032700	SCHENKS BRANCH AT CHARLOTTESVILLE VA
1646200	SCOTT RUN NEAR MCLEAN VA
2048400	SEACOCK CREEK NEAR IVOR VA
1632000	N F SHENANDOAH RIVER AT COOTES STORE VA
1633000	N F SHENANDOAH RIVER AT MT JACKSON VA
1634000	N F SHENANDOAH RIVER NEAR STRASBURG VA
1635200	N F SHENANDOAH RIVER TRIB NR WATERLICK VA
1631000	S F SHENANDOAH RIVER AT FRONT ROYAL VA
1629500	S F SHENANDOAH RIVER NEAR LURAY VA
1628500	S F SHENANDOAH RIVER NEAR LYNNWOOD VA
1629400	S F SHENANDOAH RIVER TRIB NEAR LURAY VA
2030500	SLATE RIVER NEAR ARVONIA VA
1644295	SMILAX BRANCH AT RESTON VA
2014500	SMITH CREEK NEAR CLIFTON FORGE VA
1632900	SMITH CREEK NEAR NEW MARKET VA
2079720	SMITH CREEK TRIB NEAR SOUTH HILL VA
2072500	SMITH RIVER AT BASSETT VA
2073000	SMITH RIVER AT MARTINSVILLE VA
2072000	SMITH RIVER NEAR PHILPOTT VA
2065100	SNAKE CREEK NEAR BROOKNEAL VA
2058000	SNOW CREEK AT SAGO VA
1672500	SOUTH ANNA RIVER NEAR ASHLAND VA
1672400	SOUTH ANNA RIVER TRIB NEAR ASHLAND VA
2069700	SOUTH MAYO RIVER NEAR NETTLERIDGE VA
1627500	SOUTH RIVER AT HARRISTON VA
1626500	SOUTH RIVER AT WAYNESBORO VA
2023500	SOUTH RIVER NEAR RIVERSIDE VA
1665450	SOUTH RIVER NEAR STANARDSVILLE VA
2023300	SOUTH RIVER NEAR STEELES TAVERN VA
1626000	SOUTH RIVER NEAR WAYNESBORO VA
1627300	SOUTH RIVER TRIB NEAR HARRISTON VA
2029410	SOWELL BRANCH NEAR CHARLOTTESVILLE VA
3475700	SPRING CREEK NEAR ABINGDON VA
3487900	SPROUTS CREEK NEAR CHATHAM HILL VA
3473800	STALEY CREEK NEAR MARION VA
1644291	STAVE RUN NEAR RESTON VA
2030800	STOCKTON CREEK NEAR AFTON VA
1633500	STONY CREEK AT COLUMBIA FURNACE VA
3525000	STONY CREEK AT FORT BLACKMORE VA
2046000	STONY CREEK NEAR DINWIDDIE VA
3165800	SUGAR RUN NEAR SPEEDWELL VA
2012950	SWEET SPGS CR TRIB AT SWEET CHALYBEATE VA
2032600	SWIFT RUN TRIB NEAR STANARDSVILLE VA
1644100	S F SYCOLIN CREEK NEAR LEESBURG VA

Table 5.--Alphabetical list of gaging stations.

STATION	
2029450	THOMAS CREEK AT KEENE VA
3168750	THORNE SPRINGS BRANCH NEAR DUBLIN VA
1663000	THORNTON RIVER NEAR LAUREL MILLS VA
1662300	THORNTON RIVER TRIB NEAR THORNTON GAP VA
2046800	THREE CREEK TRIB NEAR DREWRYVILLE VA
2055100	TINKER CREEK NEAR DALEVILLE VA
1673500	TOTOPOTOMOY CREEK NEAR ATLEE VA
2026500	TYE RIVER AT ROSELAND VA
2027000	TYE RIVER NEAR LOVINGSTON VA
2028000	TYE RIVER NEAR NORWOOD VA
1671650	WALDROP CREEK NEAR LOUISA VA
3173000	WALKER CREEK AT BANE VA
3162700	WALLEN CREEK NEAR TROUT DALE VA
1621200	WAR BRANCH NEAR HINTON VA
2034250	WHISPERING CREEK AT SPROUSES CORNER VA
2076600	WHITETHORN CREEK TRIB AT GRETNA VA
2034200	WILLIS RIVER AT CURDSVILLE VA
2034500	WILLIS RIVER AT FLANAGAN MILLS VA
3175500	WOLF CREEK NEAR NARROWS VA
1669300	YORKERS SWAMP NEAR CENTER CROSS VA